ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

GRADUATE PROGRAM

MA IN PROJECT MANAGEMENT

Project Management Maturity Level: In Case of Total Energies Marketing Ethiopia S.C

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STATEMENT OF DECLARATION

I, Hermella Begashaw, confirm that the research titled "Project Management Maturity Level: In case of Total Energies Marketing Ethiopia S.C." is the result of my own study and effort, conducted under the guidance of Dr. Wassihun M. This research has not been previously submitted for any degree in this or any other institution. I have acknowledged all the sources of information used in this research.

Name **Hermella Begashaw**

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Date **JUNE 2023**

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ABSTRACT

The study aimed to evaluate the project management maturity level of Total Energies Marketing Ethiopia S.C using PM Solutions Maturity Model. The research is descriptive study and employed a mixed method approach, including questionnaire and interviews to collect data from the total population within the company. The study found that the respondents had prior experience in project management and were familiar with project management practices. However, there was a low level of female participation in leading and managing engineering projects at the company. The majority of respondents were well-educated and had a good understanding of project management maturity levels. The research findings show that Total Energies Marketing Ethiopia S.C has an overall project management maturity level of Level-3, which is equivalent to 51% of the maximum achievable score of 5 points. This suggests that the project management maturity of the company is characterized by organizational standards and institutionalized processes. The findings of this research demonstrate that Total Energies Marketing Ethiopia S.C has a good understanding of project management practices in some areas, but there is room for improvement in others. The study recommends investing in training programs, improving communication and integration management processes, and implementing effective risk management practices to improve project outcomes and reduce project costs in the company.

Key words: Maturity level, Maturity Model, TotalEnergies Marketing Ethiopia

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ABBREVIATIONS/ACRONYMS

PM	Project Management
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
CMM	Capability Maturity Model
PMMM	Project Management Maturity Model
OPMMM	Organizational Project Management Maturity Model

CHAPTER ONE

1 INTRODUCTION

1.1 Background of the study

The Project Management Institute (2017) states that implementing effective project management strategies can improve the chances of achieving project success. This would lead to projects being finished within the allotted timeline and budget, while still meeting the desired standards of quality. A report titled "Pulse of the Profession: Transforming the high cost of low performance" highlights the role of good project management practices on helping organizations to streamline their project delivery processes. The report further highlights good project management practices can help organizations identify and mitigate risks and reduce waste and increase efficiency thus reducing the likelihood of project failures.

Project management maturity level refers to an organization's ability to effectively plan, execute, monitor, and control projects (Kerzner, 2017). It serves as a gauge of the company's project management culture as well as its processes, tools, and methodologies. To complete any project successfully and ensure effective project management practices within an organization, the Project Management Body of Knowledge (PMBOK) identifies nine core knowledge areas and five project process groups. These must be followed to ensure the smooth flow of the project throughout its life cycle. The nine core knowledge areas are Integration management, Scope management, Time management, Cost management, Risk management, Quality management, Human resource management, Communication management, and Procurement management (PMBOK, 2008). The five project management process groups include initiating, planning, executing, monitoring, and controlling, and closing (PMI, 2004). It is feasible to determine areas for improvement and create a roadmap for improving project management practices by assessing an organization's level of project management maturity using the core knowledge areas and five project process groups (Crawford, 2014).

TotalEnergies Marketing Ethiopia S.C is a major player in the petroleum products market in Ethiopia. Total Energies Marketing Ethiopia SC is a subsidiary of Total Energies, a French multinational integrated oil and gas company. The Ethiopian subsidiary is primarily involved in

the marketing and distribution of petroleum products, including gasoline, diesel, and lubricants, as well as liquefied petroleum gas (LPG) for domestic use.

TotalEnergies Marketing Ethiopia S.C is currently engaged in a range of projects aimed at enhancing its service offerings and promoting sustainable energy practices. These projects include the construction of new service stations, maintenance, and restoration of existing facilities, rebranding of service stations, installation of utility-scale and commercial-scale solar systems, setting up charging stations for electric vehicles, among others.

Assessing the project maturity level of TotalEnergies Marketing Ethiopia S.C is important to determine its current strengths and weaknesses in project management practices, improve project outcomes, reduce risks, enhance efficiency, and identify areas for improvement.

Process of assessing project maturity level comprises evaluating the organization's project management practices against a set of standards or benchmarks to identify strengths and weaknesses in project management processes, tools, and techniques (PMI, 2017). Hence, the assessment includes evaluation of the organization's project management framework, project planning and execution processes, risk management practices, project monitoring and control, and project governance structure. The assessment also involves an evaluation of the project management culture of Total Energies Marketing Ethiopia SC, including the level of project management knowledge and skills of employees, and the degree of support for project management practices at the executive level.

By assessing the project maturity level of Total Energies Marketing Ethiopia SC, the assessment targets to identify areas for enhancement, build a roadmap for enhancing project management practices, and improve the overall project delivery performance of Total Energies Marketing Ethiopia SC. This could result in improved project outcomes and increased efficiency in project delivery.

1.2 Statement of the Problem

TotalEnergies Marketing Ethiopia S.C is transforming to provide sustainable solutions to the challenge of more energy and fewer emissions. This goal is not only critical for the company's success, but it's also vital for the well-being of people across the world. As a result, managing

projects effectively is crucial, especially given the significant projects they have coming up to achieve these goals.

Cost is a major concern in project management, and cost overruns and delay has been observed in some of Total Energies Marketing Ethiopia S. C's current projects. According to Abere (2017), organizations that encounter difficulties in successfully delivering their projects are classified as having a low and imperfect level of project management maturity. This is due to a lack of effective processes, tools, and techniques for planning, executing, monitoring, and controlling projects, which can result in issues such as project delays, cost overruns, and poor-quality outcomes. Improving project management maturity helps organizations address these challenges and enhance their ability to deliver successful projects. Scope creep, which is the unrestrained expansion of project scope, is often a major contributor to cost overruns and can jeopardize project success. However, if Total Energies knows its project management maturity level, it can serve as a starting point to identify areas of improvement and take steps to progress to the next level. This can help to mitigate the risks of cost overruns and increase the chances of project success. Hence, assessing the project management maturity level of TotalEnergies Marketing Ethiopia S.C can be an important step towards improving project outcomes and reducing project costs.

here have been several studies conducted to assess project management maturity in various sectors, such as road construction and banking. Sheko (2019) conducted a study on the implementation of e-banking technology at the Commercial Bank of Ethiopia and found that developing and implementing project management knowledge areas, establishing procedures, and sharing lessons learned from past projects are essential for improving project management maturity in the bank's project offices and achieving overall project objectives. Similarly, Hadgu and Abere evaluated the project management practices and maturity levels of Ethio-Telecom and Ethiopian Construction Works, respectively. Their findings suggest that while basic project processes exist in both companies, they are not considered as organizational standards, and management supports project implementation, but their understanding and involvement are not consistent. But there are limited study's done on project management maturity level on the energy sector. the energy sector is critical for global economic development and plays a vital role in meeting the world's growing energy needs. Energy projects are often complex and require significant investments of time, money, and resources, making them high-risk endeavors. As such, research can help to identify

best practices, project management methodologies, and strategies for mitigating risks, which can ultimately improve the success rate of energy projects plus the energy sector is rapidly evolving, with advances in technology and changes in government policies and regulations.

This paper aims to address a key research gap in the field of project management within the context of the energy sector. By filling this gap, this study will contribute to the body of knowledge on project management within the energy sector. The findings from this research can also serve as a basis for further research and development of effective project management strategies in the energy sector .

1.3 Research questions

The following research questions are addressed in the study:

- What is the overall project management maturity level of the company?
- What is project management maturity level of the company in the five-project process group?
- What is project management maturity level of the company in the ten project management knowledge areas?
- Which project management knowledge areas should the company focus on to enhance its overall project maturity level?

1.4 Research objectives

1.4.1 General Objectives

The primary objective of this study is to assess TotalEnergies Marketing Ethiopia S.C.'s project management maturity level and identify area for improvement in the project management process and practice.

1.4.2 Specific objectives

- To assess the overall project management maturity level of the company.
- To evaluate the project management maturity level of the company in each of the five project process groups.

- To assess the project management maturity level of the company in each of the ten project management knowledge areas.
- To identify project management knowledge areas that require improvement to enhance the overall project maturity level of the company.

1.5 Significance of the study

This paper will make an important contribution to the field of project management by assessing the project management practices of TotalEnergies Marketing Ethiopia S.C. The identification of gaps and weaknesses in the current project management framework will provide valuable insights into how the organization can enhance their project management practices achieving better results. The development of a roadmap for improving project management practices will be a valuable resource for the organization to use as an initial benchmark for their project management maturity level and process groups' maturity level.

The paper's findings and recommendations will be useful not only for the organization but also for other companies operating within the energy sector. The roadmap for improving project management practices can be used as a template for other companies looking to improve their project management practices, which will ultimately contribute to the strengthening of the industry's project management capabilities as a whole. The paper's findings can also serve as a starting point for further research in project management practices within the energy sector, leading to further improvements in project management methodologies and practices.

1.6 Scope of the study

The research scope for this study is to assess the project management maturity level of TotalEnergies Marketing Ethiopia S.C and identify areas for improvement. The study will focus on evaluating the organization's project management framework, project planning and execution processes, risk management practices, project monitoring and control, and project governance structure. The study will use a mixed-methods approach, including surveys and interviews to collect data from total population within the organization.

1.7 Limitation of the study

The study will be limited to TotalEnergies Marketing Ethiopia S.C and will not include other subsidiaries of Total Energies. The study's results will help to develop a roadmap for enhancing project management practices of the organization.

The main limitation of this study is that it is restricted to TotalEnergies Marketing Ethiopia S.C and does not include other subsidiaries of Total Energies. Therefore, the study's findings and recommendations may not be generalizable to other subsidiaries or energy companies outside of the Total Energies group. Another limitation is that the study's focus is mainly on the project management framework, project planning and execution processes, risk management practices, project monitoring and control, and project governance structure of the organization. The study may not provide an in-depth analysis of other factors that might affect the organization's project management maturity level such as the business environment and culture..

1.8 Organization of the study

Five chapters make up the structure of the research study. The study's background, the organization it is looking at, a statement of the issue, its goal, scope, and limits are all covered in the introduction part of chapter one. The second chapter focuses on pertinent academic writing on the subject at hand. The third chapter discusses research design and technique. The fourth chapter is about data presentation, analysis, and interpretation. Finally, Chapter 5 summarizes the findings, conclusions, and suggestions.

CHAPTER TWO

2 REVIEW OF RELATED LITERATURE

Project management maturity is a critical aspect for any organization that intends to achieve project success. It involves assessing the organization's project management processes, practices, policies, and systems to determine how well they align with the organization's business objectives (Crawford, 2014). In recent years, the idea of project management maturity has received a lot of attention, and many businesses have started using maturity models to assess and enhance their project management procedures. This literature review aims to provide an overview of the relevant literature on project management maturity and its assessment.

2.1 Theoretical review

2.1.1 Project and Project Management

Different authors have defined project in various ways, with some common elements. A project is described as a brief attempt with the goal of creating a special good, service, or outcome in the PMBOK Guide. According to Wysocki, a project is a series of distinctive, intricate, and interconnected tasks that must be carried out in accordance with guidelines and within a set amount of time and money. A project involves different sequential phases, such as initiation, planning, execution, and closeout, which are interlinked and aimed at achieving a specific goal or deliverable.

Similarly, academics and authors have characterized project management in a number of ways. The application of information, skills, tools, and procedures to project activities in order to achieve project goals is known as project management. This is accomplished through implementing and integrating project management procedures such as initiating, planning, executing, monitoring and controlling, and closing. The difference between general management and project management is that project management focus on managing unique and temporary projects, while general management deals with ongoing and repetitive operations (Wysocki, 2014).

For a successful completion of project and to meet stakeholders' expectations, it must be performed in line with the five project management process groups. These process groups ensure the project flow is effective during the course of its project life. These five project management process groups include initiating, planning, executing, monitoring and controlling, and closure (PMI, 2004).

A new project or a new phase of a current project is established by the starting process group. The planning process group establishes the broad parameters of the activity, formulates and clarifies the goals, and creates the action plan required to reach those goals. The project management plan's tasks are carried out by the executing process group in order to satisfy project requirements. The project's progress and performance are monitored, reviewed, and coordinated by the monitoring and controlling process group, who also pinpoints areas where the plan needs to be changed and puts those modifications into action. All project management process groups are concluded by the closure process group, which also formally concludes the project stages or contract responsibilities. (PMI, 2013).

In summary, project management involves the application of different techniques to achieve project goals, while project management process groups ensure the effect flow of the project during its life cycle. Initiating, planning, executing, monitoring, and controlling, and closing are the five key project management process groups identified by PMI.

2.1.2 Project Management Body of Knowledge Areas

In three functions, the Project Management Body of Knowledge (PMBOK) identifies nine key knowledge domains. The three knowledge areas are procurement management, human resource management, and each of the following: scope management, time management, integration management, cost management, risk management, and quality management. (PMBOK, 2008).

Integration management is a supportive function that involves procedures and actions for identifying, combining, defining, unifying, and coordinating the many process and project management activities within process management groups. This entails making choices between competing goals and alternatives to meet stakeholder expectations (PMI, 2013).

The administration of the project's scope, timeline, budget, and quality are included in the second group of crucial tasks. Project scope management is the process that must be used to ensure that

the project includes all of the work needed to carry it out correctly. Its objective is to specify and regulate what is and is not a part of the project (PMI, 2013). Project time management includes processes required to manage the timely completion of the project. The processes necessary for project time management include activity definition, plan schedule, sequence activity, resource, and duration estimation, develop, and control schedule. To ensure that the project is completed within the allocated budget, project cost management encompasses the activities involved in planning, budgeting, estimating, financing, funding, managing, and controlling expenses (PMI, 2013). Project quality management includes the processes required to ensure that the project will satisfy the needs for which it was undertaken. It includes the planning, assurance, and project quality control to meet the stakeholders' expectations (PMI, 2013).

2.1.3 Project Management Maturity

Maturity is a concept that is being defined in many ways by various authors. It refers to an organization's comparative level of development in any given process or activity (PMI, 2008). Maturity is used to describe the state of an organization's effectiveness and the sophistication of its project management processes and practices (Crawford, 2005; Coke Davies, 2005). In an organizational context, maturity signifies the steady development of an enterprise-wide project management approach, methodology, strategy, and decision-making process that generates ideal conditions for organizations to achieve their goals (Mateen, 2015; PMBOK, 2013).

The degree to which a certain process is specifically defined, managed, regulated, and effective is referred to as the process' maturity. It suggests a possibility for capability expansion and reveals the depth of a company's project management processes as well as how consistently they are used across the entire organization (Curtis, Paulk et al., 1993). The capability of organizations to successfully deliver project performance within time, budget, and specifications in a consistent manner is an essential element of project management maturity. Organizations can improve their project management capability through training, benchmarking, mentoring, and the use of different tools, techniques, and maturity models (Hadgu, 2018).

Maturity models are ways of assessing used to evaluate the maturity of an organization's operations and procedures in order to identify opportunities, strengths, and weaknesses for future changes. They provide a framework for the deliberate and systematic development of project management

capability in order to achieve effective project outcomes. Maturity models are useful in framing improvement initiatives by prioritizing pointing out areas for change (Coke-Davies, 2005). Personal and/or group interviews, artifact collecting and evaluations, surveys, and comparing benchmarks to already established standards are all used to measure project management maturity. (Crawford, 2002).

Assessing the baseline maturity level of an organization is essential to identify areas which need instant action and areas that have an influence and provide a significant return on investment (Crawford, 2002). In recent years, there has been an increase in the use of maturity models to improve organizational performance. The maturity level is determined by the use of project management maturity models and the degree to which the project management body of knowledge domains are implemented. Organizations develop their capabilities by adopting project management maturity models as a guiding framework to deliver successful projects in the long run (Jugdev & Thomas, 2002).

Many maturity models consist of a five-level scale, ranging from the most basic level (Level - 1) to the most advanced level, which is continual improvement (Level - 5). Several important maturity models will be thoroughly examined, including Capability Maturity Model Integration (CMMI), Project Management Maturity Model by H. Kerzner (PMMM by H. Kerzner), Project Management Process Maturity Model (PM2), Project Management Maturity Model by PM Solutions, and Organizational Project Management Maturity Model by Project Management Institute (OPM3). (Hadgu, 2018).

A project management maturity model is a tool used to assess an organization's project management processes and practices. It provides a framework for evaluating the organization's current project management practices and identifying areas for improvement. Several project management maturity models were developed over the years, such as the Capability Maturity Model Integration (CMMI), Project Management Maturity Model (PMMM), Organizational Project maturity model (OPM3), Agile Maturity model (AMM) and Portfolio, Program and project maturity model (P3M3) (Kerzner, 2017). These models provide a structured approach to assessing an organization's project management maturity level. Although there are several project management maturity models, two of the most widely recognized ones are the Project

Management Institute's (PMI) Project Management Maturity Model (PMMM) and the Capability Maturity Model Integration (CMMI) developed by the Software Engineering Institute (SEI) at Carnegie Mellon University.

2.1.3.1 Capability Maturity Model Integration (CMMI)

Capability Maturity Model Integration (CMMI) is a project management maturity model designed to help organizations improve their processes and achieve their business goals. CMMI project management maturity model that provides a framework for continuous improvement. It was developed by the Software Engineering Institute (SEI) at Carnegie Mellon University and is widely used in various industries, including software engineering, aerospace, defense, and telecommunications (Paulk et al., 2013).

CMMI defines five levels of maturity, each focusing on a different aspect of project management. Initial, Managed, Defined, Quantitatively Managed, and Optimizing are the categories. Each level builds on the previous one and requires organizations to meet certain criteria to achieve it (Asadi et al., 2017).

One of the main benefits of CMMI is that it provides organizations with a framework for continuous improvement. By following the model, organizations can identify their strengths and weaknesses, and develop plans to improve their processes and practices. This can help them to optimize their performance, reduce costs, and deliver better products and services to their customers (Paulk et al., 2013).

1. Initial: The organization has no formal process in place, and work is performed in an ad hoc manner.
2. Managed: Basic project management processes are established, and the organization has a basic understanding of project management.
3. Defined: The organization has a standard set of processes in place and has a formal project management methodology.
4. Quantitatively Managed: The organization uses data and analysis to manage and improve its processes and projects.

5. Optimizing: Based on quantifiable data and feedback from stakeholders, the organization is constantly refining its procedures.

However, implementing CMMI can be a complex and time-consuming process, and requires a commitment from the entire organization. It also requires organizations to invest in training and resources to implement the model effectively (Asadi et al., 2017). However, the benefits can be significant, particularly in industries where quality and efficiency are critical.

According to a study by the SEI, organizations that have implemented CMMI have seen improvements in productivity, quality, and customer satisfaction. The study found that organizations at Level 3 or above had a 40% higher on-time delivery rate and a 20% higher productivity rate than organizations at lower levels.

In general, CMMI is a project management maturity model that provides a framework for continuous improvement. It has five levels of maturity, each representing a different level of process improvement and organizational maturity. While implementing CMMI can be complex and time-consuming, the benefits can be significant, particularly in industries such as software development and engineering where quality and efficiency are critical (Kaplan & Schiesl, 2012).

2.1.3.2 Project Management Maturity Model (PMMM)

The Project Management Maturity Model (PMMM) is a tool that helps organizations assess their project management processes and improve their business outcomes. The PMMM has been widely adopted by various industries to measure and improve project management practices. The model was first introduced by J. Kent Crawford in his book "The Project Management Maturity Model" (1998) and has since then undergone several updates and improvements (Crawford, J. 1998). The PM Solutions model is one of the most frequently cited studies and ranks the 10 knowledge areas from PMBOK on a 5-level scale (PM Solutions, n.d.). The benefits of using a PMMM include increasing project management effectiveness and the potential for increased project success rates (Project Management Institute, 2017).

The PMMM is typically based on a five-level framework that assesses an organization's project management practices based on a set of best practices. The five levels are:

1. Initial Level: The organization's project management practices are ad-hoc, and there is no standardization or consistency in the approach.
2. Repeatable Level: The organization has implemented some project management processes and procedures, but they are not fully standardized, and project success is dependent on individual effort and heroics.
3. Defined Level: The organization has established a set of formal project management processes and standards, which are consistently followed across the organization.
4. Managed Level: The organization has established a project management information system to track project performance, and project management practices are continuously monitored and improved.
5. Optimized Level: The organization's project management practices are fully integrated with the business strategy, and project management is viewed as a key competency that is continuously improved to drive business value.

According to a study by the Software Engineering Institute (SEI), many organizations are at Level-1 or 2 on the maturity curve, meaning project management processes are still being established (SEI, 2010). However, organizations at Level 3 or above had a 40% higher on-time delivery rate and a 20% higher productivity rate than organizations at lower levels (Crawford, 2014).

To assess an organization's project management maturity level, PMI's Organizational Project Management Maturity Model (OPM3) is commonly used (PMI, 2017). OPM3 is a comprehensive maturity model that assesses an organization's project, program, and portfolio management practices. It is suggested that one start with OPM3, which is easier to understand and implement (Crawford, 2014).The model has three levels:

1. Standardize: The company assesses its present methods and identifies areas for development, such as standardizing project management procedures.
2. Measure and Control: The organization implements project management processes and systems to measure and control project performance, and continuously monitors its effectiveness.

3. Continuously Improve: The organization identifies opportunities for continuous improvement and implements changes to improve project management performance and drive business value.

Maturity is an ongoing process, and organizations must be willing to stay abreast of changes in the field of project management and implement best practices (Crawford, 2014). Using a PMMM can help organizations assess their project management processes, increase project management effectiveness, and potentially increase project success rates (Crawford, 1998; Project Management Institute, 2017).

2.1.3.3 Project Management Process Maturity Model – PM2

This Model was established by William C. Ibbs and Kwak, it is an innovative project management model that integrates earlier maturity models to measure the project management levels of various companies and industries. PM2 allows the collection and comparison of project management process information from different organizations (Ibbs & Kwak, 1998). The model divides project management processes and practices into ten project management knowledge areas and five project management processes, using the Project Management Institute's (PMI) PMBOK as a basis. Each maturity level in the PM2 Model includes key project management processes, organizational characteristics, and focus areas (Ibbs & Kwak, 1998).

Table 2-1: Project Management Process Maturity Model (PM2)

Maturity Level	Key PM Processes	Major Organizational Characteristics	Key focus areas
Level – 1	Ad-hoc Level: There are no consistent PM processes or techniques. There is no uniform collection or analysis of PM data.	Practically distinct. There is a lack of senior management support. Individual efforts are required for project success.	Identify and implement fundamental project management processes.
Level – 2	Planned Level: Processes for informal project management have been identified. There have been concerns with informal PM. Informal PM data is collected.	Teamwork is a weakness. Organizations are strong at doing similar work.	Project planning on an individual basis.
Level – 3	Managed at Project Level: A structured framework for project	PM skill and practice information training.	Individual project planning and control

	planning and control is in place. Formal PM data is processed.	Team player (Medium).	that is systematic and structured.
Level – 4	Managed at Corporate Level: Several PMs (Program Managers). PM data and processes are linked. Data from the PM process are objectively examined, measured, and sorted..	Excellent teamwork. Formal project management training for the project team.	Professionally planning and managing various projects.
Level – 5	Continuous Learning: PM practices are always being enhanced. PM processes are completely comprehended. PM data is streamlined and maintained.	Organization that is project-driven. Organization that is dynamic, active, and fluid. Continuous process and practice improvement in project management.	Creative suggestions for improving PM processes and practices.

Source: Adapted from Kwak&Ibbs (2002)

2.1.3.4 Project Management Maturity Model by PM Solutions'

The Project Management Maturity Model developed by PM Solutions is based on PMBOK's knowledge area and CMM's maturity stages. It is implemented to assess organization's PM maturity and guide them on the way to acquiring the necessary abilities for project management growth and excellence. The model assesses an organization's project management implementation across the nine knowledge areas, which are further broken down into components. After identifying the initial level of maturity and areas for improvement, the model provides a roadmap for achieving project management maturity (Crawford, 2002). The five maturity levels and their attributes are as follows:

Maturity Level 1-Initial Process

- Processes- No recognized practices and standards.
- Documentation- Loose and ad-hoc.
- Management- Management understands the definition of a project and is aware of the need for project management.
- Metrics- Collected informally in an ad-hoc basis.

Maturity Level 2 - Structured process and standards

- Processes- Processes exist but are not considered an organizational standard.

- Documentation- Documentation exists on the basic processes
- Management- Management supports the implementation of project management but understanding and involvement is not consistent/ applied to all projects. Large projects are executed in a systematic fashion and management is involved in such projects.
- Metrics- Basic metrics to track cost, schedule and technical performance exist.

Maturity Level 3- Organizational standards and institutionalized process

- Processes- All project management processes are in place and established as organizational standards. These processes involve the clients as members of the project team. Nearly all projects use these processes.
- Documentation- Documentation exists on all the processes.
- Management- Management is regularly involved in input and approval of key decisions.
- Metrics- Metrics are formally collected and each project is evaluated and managed in light of other projects.

Maturity Level 4- Managed Process

- Processes- Project management processes, standards and supporting systems are integrated with other corporate processes and systems.
- Documentation- Processes and standards are documented to support using metrics to make project decisions.
- Management- Management understands its role in the project management process. There are different management styles and project management requirements for different projects.
- Metrics- Efficiency and effectiveness metrics are used. All projects, changes and issues are evaluated based upon metrics from cost estimates, baseline estimates, and earned value calculations.

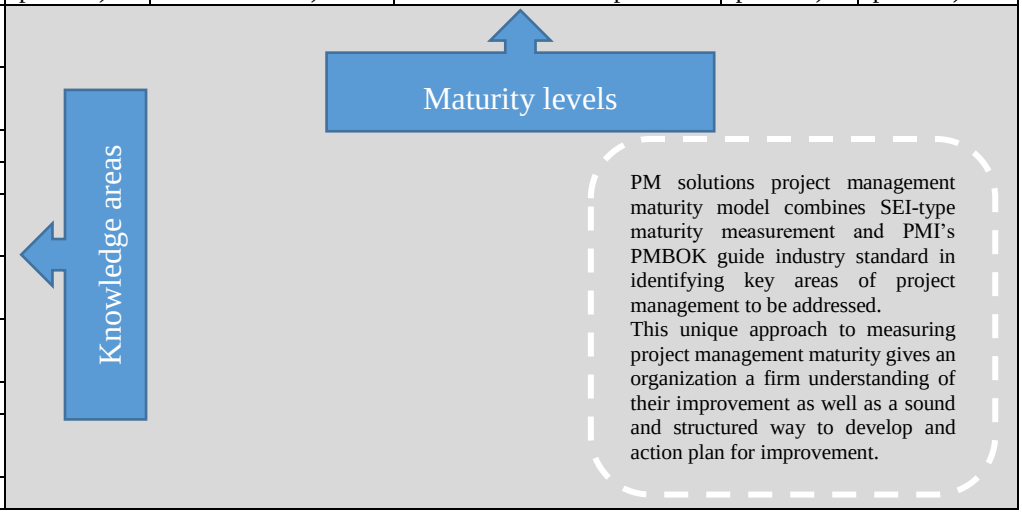
Maturity Level 5- Optimizing Process

- Processes- Processes are in place and actively used to improve project management activities.

- Documentation- Lessons learned are regularly examined and used to improve project management processes, standards, and documentation.
- Management- Management is focused not only on effectively managing projects but also on continuous improvement.
- Metrics- The metrics collected during project execution are used to understand the performance of a project and to assist in the making of organizational management decisions for the future.

Table 2-2: Project management maturity model

	Level 1 (Initial process)	Level 2 (Structured process and standards)	Level 3 (Organizational standards & institutionalized process	Level 4 (Managed process)	Level 5 (Optimizing process)
Project integration management					
Project scope management					
Project time management					
Project cost management					
Project quality management					
Project Human resource management					
Project Communication management					
Project risk management					
Project procurement management					
Stakeholder management					



Source: Project management solutions, inc. 2013

2.1.3.5 Organizational Project Management Maturity Model by Project Management Institute – OPM3

The OPM3 model developed by PMI provides an organizational-wide opinion of portfolio, program, and project management for the achievement of best practices in each domain. The model integrates knowledge, organizational strategy, people, and processes for the achievement of organization's strategic objectives (PMI, 2008). OPM3 framework cycle involves acquiring

knowledge, performing assessments, managing improvements, and repeating the process. The model has five maturity levels for analyzing portfolio, program, and project maturity collectively or individually.. These levels are None, Standardized, Measure, Control, and Improve. According to the concept, businesses may have a high level of maturity in project management procedures but may not excel in portfolio or program management. (PMI-OPM3, 2013).

2.1.4 PM Model Selection

Man (2007) proposed three dimensions for evaluating maturity models for project management maturity models (PMMMs): Structure, Applicability, and Usage. Because of its well-structured two-dimensional framework based on industry standards, PM Solutions' Project Management Maturity Model (PMMM) will be employed to achieve the research goal. The PMMM features a maturity level dimension based on the SEI capability maturity model and a major areas of project management dimension based on the nine knowledge areas defined by PMI. In addition to these features, Shako (2019) identified other advantages of using the PMMM by PM Solutions, including its clear definition of knowledge areas and processes according to PMI standards, well-defined maturity levels, and integration with various project management maturity models. The PMMM also provides a series of steps to help organizations improve their overall project management effectiveness and can be updated with up-to-date knowledge areas and processes.

2.1.5 Factors affecting project management maturity

Several factors affect an organization's level of project management maturity. These include, among other things, the organization's culture, leadership, project management processes and systems, project management training, and development initiatives. A culture that encourages collaboration and teamwork, for example, can improve the organization's project management maturity level. Similarly, good project management training and development programs can improve the project management practices of a business.

2.2 Empirical review

The Project Management Maturity Model (PMMM) has been widely used as a tool for assessing and improving project management practices in various industries.

Al Marzooqi et al. (2021) conducted a survey of oil and gas companies in the UAE to assess their PMM maturity levels and identify the factors that influence PMM maturity in the industry. They found that factors such as project complexity, organizational culture, and leadership support have a significant impact on PMM maturity in the industry and suggest that companies should focus on developing these factors in order to improve their project management practices and achieve better project outcomes. Similarly, Ogunlana et al. (2015) compared the PMM maturity levels of oil and gas companies in Norway and the UK. They found that Norwegian companies had higher levels of PMM maturity than UK companies and suggest that this may be due to differences in industry culture and regulatory frameworks.

Kerzner (2006) notes that PMMM has been extensively used to assess the maturity of project management practices in organizations. Empirical studies have shown that PMM maturity is positively related to project success and business performance in different industries.

Iyagba et al. (2018) found in their study of Nigerian firms that there is a positive relationship between PMM maturity and business performance. The authors suggest that PMM can be used as a tool for improving project management practices, which in turn can lead to better business outcomes. They also highlight the importance of leadership support, project management training, and the development of a project management culture for improving PMM maturity.

In the software engineering industry, García-Mireles et al. (2015) conducted a systematic literature review and found that PMM can be a useful tool for assessing and improving project management practices. The authors suggest that customized PMM models are needed for the software engineering industry due to its unique characteristics such as the use of agile methodologies. They also highlighted the importance of continuous improvement and organizational learning for improving PMM maturity.

Price Waterhouse Coopers conducted a study in 2004 on project management maturity in 200 organizations from 30 countries, which found a positive relationship between maturity level and

project performance. A higher level of project management maturity generally led to superior performance interims of project delivery and business benefits (Price Waterhouse Coopers, 2004).

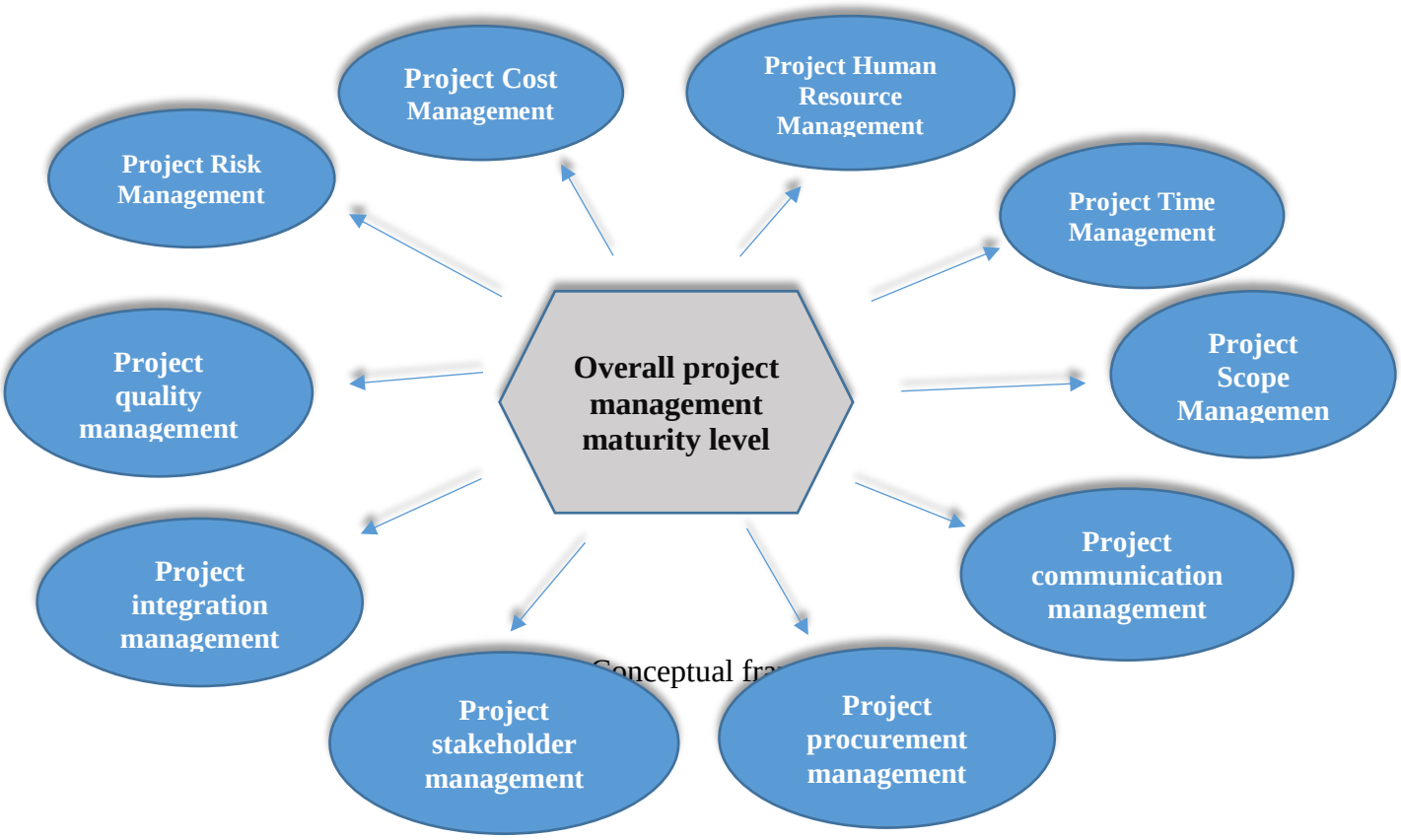
Tekalign (2014) found that 79.1% construction projects failed meeting their purposes, with more than 26.2% average cost overrun. Asnakew A. (2016) identified several problems that contribute to the delay, poor quality, and cost overruns of railway megaprojects in Ethiopia, including a lack of trained and qualified staff, negative attitudes and behaviors towards project management, inadequate equipment and facilities, poor stakeholder participation, and geological and weather challenges. Despite ongoing debates concerning the level to which project management maturity plays a role in organizational project management effectiveness and efficiency, it is generally recognized that mature project management processes and practices play an important role in meeting project objectives. Assessing project management maturity can Sure, here are some additional findings from research on project maturity level assessment in the oil and gas industry.

These empirical studies suggest that PMM can be a useful tool for assessing and improving project management practices in various industries, and that organizations with higher levels of PMM maturity are more likely to achieve project success and better business performance. Therefore, it is important for companies to assess their PMM maturity and strive to improve it over time.

2.2.1 Conceptual Framework

Project management maturity models are applied to assess the extent to which organizations are implementing project management by relating its practices with established best practices. These best practices encompass the PM knowledge areas which every project must address and represent a set of skills and procedures that need to be effectively utilized throughout the project life cycle. According to the Project Management Institute (PMI 2013), there are five project process groups; namely Initiating, Planning, Executing, Controlling and Closing and ten project management knowledge areas: Project Integration Management, Project Scope Management, Project Time Management, Project Cost Management, Project Quality Management, Project Human Resource Management, Project Communications Management, Project Risk Management, Project Procurement Management, and Project Stakeholder Management. In this document, these ideas are adapted and implemented in the first part of the framework where organizational PMM is

evaluated by the five project process groups. The second part of the framework evaluates organizational project management maturity level in ten project management knowledge areas.



Conceptual fra

CHAPTER THREE

3 RESEARCH METHODOLOGY

This chapter provides a synopsis of the research approach that will be used for the study. The chapter discusses the research approach, data sources, data gathering instruments, and data analysis methodologies and procedures.

3.1 Description of the study area

Construction of new service stations, upkeep and restoration of existing facilities, rebranding of service stations, utility-scale and commercial-scale solar, charging stations for electric vehicles, and other projects being undertaken by Total Energies Marketing Ethiopia SC which takes places is in Ethiopia. Thus this study assess the project management maturity of TotalEnergies Marketing Ethiopia S.C and identifies areas which needs direct improvement for the existing project's success as well as the success of projects planned to be constructed in the near future.

3.2 Research design

Adams et al. (2007) stated that the research design serves as a blueprint for achieving research objectives and addressing research questions. The study seeks to capture the current state of the Total Energies Marketing Ethiopia SC project management practices using a descriptive research method. Descriptive research design is a method that is commonly used to gain an understanding of a particular phenomenon by describing it in detail. It involves collecting data through various methods such as surveys, interviews, observations, and existing documents, and analyzing the data to generate a comprehensive picture of the subject under study.

Descriptive research design is useful when the research question involves understanding the current state of a phenomenon, rather than exploring causal relationships. In the case of this study, the research question is focused on describing the current project management maturity level of Total Energies Marketing Ethiopia SC. A descriptive research design is well-suited to answer this

question, as it allows the researcher to provide a detailed overview of the company's project management practices without necessarily exploring the causes or effects of these practices.

3.3 Research approach

Research approach referred as a mixed methods approach combines both qualitative and quantitative methods to provide a comprehensive understanding of the subject. It is utilized in the research as it is a powerful tool for assessing the project management maturity level of an organization. According to Creswell (2009), combining both qualitative and quantitative approaches in a single study, known as a mixed research approach, is more advantageous than using either a qualitative or quantitative approach alone. By using the qualitative approach, the data collected through interviews can be interpreted and comprehended in a way that would otherwise be unattainable, enabling a deep understanding of the actual project management practices. Meanwhile, the quantitative approach is particularly useful in analyzing the questionnaire data and computing important metrics such as the mean , percentage, and other ways of data presentation.

3.4 Target Population

This document aims to evaluate project management maturity level of TotalEnergies Marketing Ethiopia S.C. for executing construction projects. The study population consists of twenty employees who possess a strong background in project management. The research focuses on project teams or employees directly involved in managing projects. The population consists of eight project engineers, two top-level managers (network manager and operations manager), one manager who reports to the network manager and manages the project engineers, and 14 contractor site supervisors. The total population size is 25 employees. As the population size is relatively small, the entire population was used as respondents for the assessment, and sampling was not necessary. This approach is consistent with the recommendation of Babbie and Mouton (2015) that sampling is not always required, particularly when the population size is small, and a census can be conducted instead.

With 20 respondents, statistical analysis can be applied to draw meaningful conclusions from the data. This sample size allows for the calculation of basic descriptive statistics such as means, standard deviations, and frequencies, which can provide valuable insights into the project management practices of the company. Therefore, the sample size of 20 is appropriate for conducting a statistical analysis of the data.

3.5 Data collection methods

The study employed both primary and secondary data to ensure data credibility through triangulation, which involves comparing data obtained from different sources. Primary data was gathered through interviews, document analysis, and observation. A set of questions related to project management was distributed to the employees in the study population. The questions used in the surveys were designed based on the project management body of knowledge areas and the components found in each area.

One-on-one interviews were conducted to obtain more detailed information about their experiences with project management. Additionally, relevant documents such as project schedule , progress reports and risk prevention plan documents were reviewed to identify patterns and trends in the organization's project management practices.

3.6 Data analysis techniques

The data collected from questionnaires about project management maturity level were analyzed by explaining the respondent's demographic profiles, evaluating the corporation's maturity level using PM process groups, and identifying the average maturity level of each knowledge area. The maturity level of each knowledge area was determined by analyzing respondents' responses in relation to the maturity model, which enabled the calculation of an average maturity level for each knowledge area. Data analysis was conducted using a descriptive method, and Microsoft Excel was utilized to compute the frequency counts and percentages of demographic and project maturity level data. Tables, charts, and graphs were presented to facilitate readers' comprehension of the data.

3.7 Validity and reliability

Organizations can evaluate and appraise their project management maturity levels by utilizing established maturity models and standard questions derived from the Project Management Body of Knowledge (PMBOK). The validity of the data collection instruments was verified by comparing them to available literature. This means that the questions and maturity models used in the research are compared to established standards and best practices in project management. By doing so, the researcher can ensure that the data collection instruments are measuring the appropriate constructs and are likely to yield accurate and meaningful results. Related literatures consulted in this process include the Project Management Body of Knowledge (PMBOK) published by the Project Management Institute (PMI), as well as other relevant industry standards and guidelines. These publications provided a foundation for comprehending important project management concepts and principles, as well as common techniques to measuring project management maturity levels.

In addition to verifying the data collection instruments against existing literature, it is also important to pretest them with multiple respondents. Hence, questioners has been pretested with multiple respondents to identify any issues or errors with the questions and ensure that they are clear and understandable to participants. Moreover, the entire population was used for data collection, allowing for generalization of the results to the entire group. This means that the findings of the research are likely to be representative of the project management maturity levels of the organization as a whole, rather than just a subset of the population.

3.8 Ethical considerations

Saunders et al. (2009) identified important ethical matters that arise throughout the stages and duration of a research project. These comprise privacy and consent of participants, maintenance of data confidentiality, and anonymity. To address these issues, the researcher obtained oral consent from selected respondents before delivering questionnaires. The use of questionnaires helped to ensure that respondents' privacy is not compromised, and the data they provide will be kept confidential and used solely for the research project. Additionally, to maintain anonymity, the researcher recused themselves from interfering with respondents as they complete the questionnaires, except when necessary to clarify questions.

CHAPTER FOUR

4 DATA ANALYSIS AND PRESENTATION

This section summarizes and analyzes the data gathered from respondents on TotalEnergies Marketing Ethiopia S.C.'s project management maturity level. The chapter is split into two sections. The demographic profiles of the respondents are shown and described in the first section. This information includes things like their work titles, years of experience, and educational backgrounds. The maturity level of the corporation's PM process groups is examined in the second stage. This involves assessing the company's maturity level in each of the project management process groups, such as initiating, planning, executing, monitoring, and controlling, and closing. Furthermore, the project management maturity level and average project management maturity level of each knowledge area of projects are evaluated by comparing the detail responses of the respondents to the maturity model. This requires going over the information gathered in each knowledge area, such as project integration, scope, time, cost, quality, human resources, communication, risk, and procurement. The data is then compared to the maturity model to assess the company's project management maturity level in each area.

4.1 Response rate

The percentage of individuals in a study who responded to the research instruments is referred to as the response rate. A total of 25 questionnaires were provided to respondents in person and by email in this study. A total of 20 questionnaires were completed and returned, yielding an 80% response rate.

4.2 Respondents General Information

This section provides an overview of the general demographic characteristics of the respondents. Gender, years of service in the corporation, educational level, position within the corporation, project management training received prior to and after joining the corporation, involvement in project management or project teams, and views on the application of project management knowledge in projects are among the characteristics. This information is useful in gaining insight into the characteristics of the respondents.

Table 4-1: Respondents General Information

Characteristics	Response	Frequency	Percentage (%)
Gender	Male	15	75%
	Female	5	25%
Service year	0-3 Years	8	40%
	4-6 Years	3	15%
	7-9 Years	4	20%
	>10 years	5	25%
Level of Education	Diploma	-	0%
	Bachelors	17	85%
	Masters	3	15%
	Other	0	0%
Current position	Project Engineer	8	40%
	Network Engineering Manager	1	5%
	Network Manager	1	5%
	Operations Manager	1	5%
	Contractor site engineer	9	45%

Source: Own survey (2023)

Table 4-1 shows that out of the 20 respondents, 15 (75%) are male and 5 (25%) are female. This indicates a low level of female participation in leading and managing engineering projects at Total Energies Marketing Ethiopia. Of the respondents, 5 have more than 10 years of work experience, 4 (20%) have 7 to 9 years of experience, 3 (15%) have 4 to 6 years of experience, and 8 (40%) have 0 to 3 years of experience in the corporation. This suggests that a large proportion of the respondents are familiar with the corporation's project management practices.

Regarding their education level, the majority of the respondents, 17 (85%), hold a bachelor's degree, while 3 (15%) have a master's degree. This shows that the respondents are well-educated and capable of replying to the offered questions.

Additionally, it can be observed that the majority of respondents, approximately 85%, are either Project Engineers or Contractor Site Engineers. The remaining respondents consist of Network

Engineering, Operations Manager and Network Managers, each comprising 5% of the total. This suggests that the employees are likely to have a good understanding of project management maturity levels and its significance in achieving project success, as well as the overall goal of creating a matured organization.

4.3 Project Management Training

As part of the data collection process, the respondents were asked whether they have received any training in project management outside of the corporation. According to Table 4-2, 55% of respondents acquired project management training outside of the organization, while the remaining 45% have not. Additionally, the respondents were asked whether they have acquired training related to project management from the corporation. The results show that 30% of the respondents have received training related to project management from the corporation, while 70% have not received any training in this area from the corporation. It can be inferred that the corporation has not provided project management training for at least the past three years, as only respondents with more than three years of experience and above at the corporation reported having received such training, accounting for 30% of the total respondents.

These findings suggest that a significant number of respondents have received training in project management outside of the corporation, which may have contributed to their knowledge and understanding of project management practices. However, the low percentage of respondents who have received training in project management from the corporation may indicate a need for the company to invest more in training programs to improve the project management skills and knowledge of its employees.

Table 4-2: Project Management Training

Characteristics	Response	Frequency	Percentage (%)
Outside of the firm, project management training	Yes	11	55%
	No	9	45%
The firm provides project management training.	Yes	6	30%
	No	14	70%

Source: Own survey (2023)

4.4 Participation in Project Management or Project Teams

The respondents were queried about their direct involvement in project management or project teams. It was found that all of the respondents, 100%, had prior experience in such roles. This indicates that the respondents are likely to be well-versed in project management practices and familiar with the challenges and issues that may arise during project execution.

Table 4-3: Respondents' participation in Project Management or Project Teams

Participation in Project Management or Project Teams	Frequency	Percentage (%)
Yes	20	100%
No	0	0%

Source: Own survey (2023)

4.4.1 Observation of project management knowledge application

The researchers inquired about the respondents' views on the application of project management knowledge for TotalEnergies projects. All 20 respondents (100%) expressed the belief that the application of project management knowledge is crucial to ensure ongoing process improvement for future projects. This indicates that the employees are receptive to incorporating PMBOK areas in to TotalEnergies projects to enhance the overall project management maturity level of the company.

Table 4-4: Perception in application of project management knowledge

Perception in application of project management knowledge		Percentage (%)
yes	**20**	100%
no	**0**	0%

Source: Own survey (2023)

4.5 Maturity Level Assessment Results Discussion

This section presents the questionnaire findings gathered from respondents, which are displayed in the corresponding tables. Respondents were asked to rate the company on the five project management process groups (Initiating, Planning, Executing, Controlling, and Closing), as well as some sub-elements of each process group. The same approach and methods were employed in the

questionnaire to gather respondents' perspectives on the maturity level of the corporation's ten-project management body of knowledge domains, as well as their unique sub-elements.

Respondents were asked to rate each of the statements on project management process and knowledge areas from 1- 5 according to the maturity levels on the below explanation for each of the rank level.

One point = Maturity Level 1 = Initial Process

- Documentation- Loose and ad-hoc.
- Processes- There are no accepted practices or standards.
- Management- Management knows the definition of a project and recognizes the importance of project management.
- Metrics- Informally gathered on an ad hoc basis.

Two points = Maturity Level 2 = Structured process and standards

- Documentation- The fundamental processes are documented
- Processes- There are processes, however they are not regarded organizational standards.
- Metrics- There are basic indicators for tracking cost, scheduling, and technical performance.
- Management- Management helps project management implementation, although understanding and involvement are not consistent or applied to all projects. Large projects are carried out in a systematic manner, and management is involved.

Two points = Maturity Level 3- Organization standards and formalized procedures

- Documentation- Documentation exists on all the processes.
- Processes- All project management practices have been implemented and adopted as organizational standards. Clients are included as part of the project team in these processes. These procedures are used in almost all projects.
- Metrics- Metrics is formally gathered, and each project is assessed and managed in the context of other initiatives.
- Management- Key decisions are routinely inputted and approved by management.

Two points = Maturity Level 4- Managed Process

- Documentation- Processes and procedures are defined to facilitate the use of metrics in project selection.
- Processes- Processes, standards, and supporting systems for project management are connected with other company processes and systems.
- Metrics- Efficiency and effectiveness metrics are used. All projects, changes, and issues are analyzed using metrics derived from cost estimates, baseline estimations, and earned value calculations.
- Management- Management understands its role in the project management process. Different projects have different management styles and project management requirements.

Two points = Maturity Level 5- Optimizing Process

- Processes- Processes have been put in place and are actively being used to improve project management operations.
- Documentation- Lessons learned are regularly examined and used to improve project management processes, standards, and documentation.
- Management- Management is concerned not only with project management but also with ongoing improvement.
- Metrics- The measurements gathered during project execution are utilized to understand project performance and to aid in future organizational management choices.

To evaluate the maturity level of each project management process group and knowledge area inside the organization, the mean value of each sub-element contained within them was determined. The mean of the five maturity levels given by respondents on each sub-element of the process groups and knowledge areas was used to compute the maturity level of each project management process group and knowledge area. Similarly, the mean of each of the ten knowledge areas was used to determine the corporation's project management maturity level, as shown in the following sections.

4.5.1 Maturity level assessment of PMBOK process groups

Table 4-5 reveals that the research findings demonstrate an overall maturity level of 2 for the project management process group of the corporation, with a mean maturity result of 2.79. This suggests that the process maturity level of the organization is at the basic process level, and significant efforts are required to even reach industry standards.

Table 4-5: Maturity level of PMBOK process groups

Project process group	Mean (Maturity Level)
Initiating	
Project Management Process is defined and standard	2.75
Availability of Policy or guideline for Project Planning and execution.	2.7
Proper Identification of stake holders	3.55
Mean	***3.0***
Planning	
Complete and inclusive planning is undertaken before execution	2.5
Organizational guideline is tailored to specific projects.	2.40
There is effective Risk Management Plan	4.35
Mean	***3.08***
Executing	
Organization/project resources required to perform project Activities	2.75
Knowledge or experience of performers in the Projects	2.6
Quality assurance effectiveness	3.15
Mean	***2.83***
Controlling	
The project is monitored, controlled, and reviewed to ensure that it adheres to standards and procedures.	2.4
Remedial measures or plan revision are taken after controlling Processes	2.5
Scope of projects is controlled	1.7
Mean	***2.20***
Closing	
Contract closeout procedures are effective	3.05
Project data gathering and lessons learnt from planning and execution for use in process improvement in the future	2.65
Effectiveness of Project closure stage	2.8

Project process group	Mean (Maturity Level)
Mean	***2.83***
Total Mean	**2.79**

Source: Own survey (2023)

4.5.2 Maturity in each of the Project Management Knowledge Areas

4.5.2.1 Maturity Level of Project Scope Management Knowledge Area

Project Scope Management is one of the ten Project Management Knowledge Area, and its maturity level is crucial to the success of a project. The researcher gathered responses to evaluate the company's project scope management level, which included developing a comprehensive explanation of the project, subdividing project deliverables and work into more manageable smaller components, monitoring the project and product scope status, and managing changes to the scope baseline. These variables are detailed in Table 4-6.

Table 4-6:Maturity Level of Project Scope Management Knowledge Area

No	Knowledge Area	Mean
1	**Managing Project Scope**	
1.1	Projects are developed with exhaustive description	2.05
1.2	Scope management plan is drafted with detail in the project's definition, verification, and control	1.35
1.3	Stakeholder needs and requirements are Identified, documented, and managed to achieve project goals	1.4
1.4	Project deliverable and project work are clearly subdivided into smaller and more manageable components	2.35
1.5	There is formalized method for acceptance of completed project deliverables	3.5
1.6	The status of project scope are Monitored and changes are managed to the scope baseline	2
	Average Project Scope Management Maturity Level	**2.11**

Source: Own survey (2023)

Table 4-6 displays that the mean value of all the variables considered for measuring project scope management maturity level ranges between 1.5 (Level-1) and 3.5 (Level-3). The total average project scope management maturity level is calculated to be 2.33, which corresponds to approximately Level

2 maturity level. This finding implies that although the corporation has established processes and procedures for managing project scope, there is still significant room for improvement in their project scope management practices. The organization's maturity level is at a basic level, and more work is needed to reach even the industry standards.

4.5.2.2 Maturity Level of Project Integration Management Knowledge Area

Integration Management is a critical component of project management, as it involves coordinating various elements of the project to ensure successful project completion. This process includes plan development, plan execution, and integrated change control, as defined by the Project Management Institute (PMI, 2004). Project Integration Management encompasses the processes and activities required to identify, define, combine, unify, and coordinate various project management processes and activities across the project management process groups. The integration process involves unification, consolidation, articulation, and integrative actions that are essential to project completion, successfully managing stakeholder expectations, and meeting requirements.

To assess the Project Integration Management practices of TotalEnergies, six variables were used to gather insights from the respondents. The mean response of the respondents is presented in Table 4.7, which was used to determine the corporation's project integration management maturity level.

Table 4-7: Maturity Level of Project Integration Management Knowledge Area

No	Knowledge Area	Mean
2	**Managing Project Integration**	
2.1	Documents are created to formally authorize the existence of a project and grant the project manager the authority to allocate organizational resources towards project activities.	2
2.2	All subsidiary plans are Defined, prepared, and coordinated and integrated into a comprehensive project management plan.	2

2.3	Changes are coordinated across the entire project.	2.05
2.4	The process of monitoring, evaluating, and communicating project advancement in accordance with the performance objectives is outlined in the project management plan.	2.05
2.5	The tasks stated in the project management plan, are carried out with proper leadership and accepted adjustments are implemented, in order to fulfill the project's goal.	2.75
2.6	All activities across all of the Project Management Process Groups are Finalized to formally complete the phase or project.	2.3
	Average Project Integration Management Maturity Level	**2.19**

Source: Own survey (2023)

Table 4-7 shows that all the variables used to measure the project integration management maturity level of the corporation are at approximately the same level, which is Level-2, except for the fifth variable. The fifth variable has a maturity level of 2.75, which is slightly higher than the others. It entails leading and doing the work outlined in the project management plan, as well as implementing approved adjustments to meet the project's aim. The mean maturity level of the project integration management knowledge area of the corporation is calculated to be 2.19. This indicates that the corporation's processes are documented and standardized to some extent, but there may still be inconsistencies in their implementation.

4.5.2.3 Project Time Management Knowledge Area Maturity Level

According to Kerzner (2013), Project time management refers to a collection of processes that are essential for completing a project on time. Activity definition, activity sequencing, activity resource estimation, activity length estimation, schedule development, and schedule control are examples of these procedures. The aim of project time management is to optimize the allocation of necessary inputs and apply them to meet pre-defined objectives within the given constraints of scope, time, and budget.

Table 4.7: Respondents project time management maturity level

No	Knowledge Area	Mean
3	**Managing Project Time**	

No	Knowledge Area	Mean
3.1	Developed the guidelines, procedures, and documentation necessary to plan, execute, and control the project schedule.	2.7
3.2	Identified the tasks involved in the project and documented how they were related to each other.	2.3
3.3	Determined the specific tasks required to complete all the project deliverables.	2.3
3.4	Estimated the resources (such as materials, labor, and equipment) needed for each task, as well as the time required to complete it.	2.25
3.5	Calculated how many work periods (e.g. days, weeks) were needed to finish each task based on the estimated resources.	2.4
3.6	Analyzed the order of tasks, how long they would take, and the resources required to create a model of the project schedule.	2.1
3.7	Kept track of the project's progress, updating the project schedule as necessary to reflect any changes and ensure that it remained on track with the plan.	1.8
	Average Managing Project Time Management Maturity Level	**2.26**

Source: Own survey (2023)

Based on this study assessing the time management practices of a corporation using eight variables presented in Table 4.7, the corporation's overall maturity level in the time management knowledge area is 2.26. This falls between Level-2 and Level-3 (structured process and standards and organizational standards and institutionalized process respectively. The results suggest that the corporation is striving to reach the industry standard and improve its time management practices.

4.5.2.4 Maturity Level of Project Cost Management Knowledge Area

PMI (2013) states that cost management is a vital element of project and business management, encompassing processes such as planning, estimating, budgeting, financing, funding, managing, and controlling costs to ensure that the project is completed within the approved budget. From the

initial planning phase to project completion, cost management is essential throughout the entire project life cycle.

The corporation's project cost management practices have been evaluated in Table 4-8, using four major variables. Based on the opinions provided by the respondents, the mean maturity level of the corporation is 2.84, which indicates a Level-2 maturity level with structured processes and standards. The mean maturity values for all the variables are similar, indicating that processes exist but are not yet considered organizational standards.

Table 4-8: Project cost management maturity degree of respondents

No	Knowledge Area	Mean
4	**Managing Project Cost**	
4.1	Creates the guidelines, procedures, and documentation necessary to plan, manage, spend, and control project costs.	2.7
4.2	Develops an estimate of the financial resources required to complete project activities.	2.75
4.3	Combines the estimated costs of individual activities or work packages to establish an approved cost baseline.	3
4.4	Tracks the project's progress to update the project costs and manages any changes to the cost baseline.	2.9
Average Managing Project Cost Management Maturity Level		**2.84**

Source: Own survey (2023)

4.5.2.5 Project Quality Management Knowledge Area Maturity Level

The concept of Quality Management, as defined by the Project Management Institute (PMI) in 2004, pertains to the measures and initiatives taken by an organization to establish quality policies, objectives, and responsibilities that ensure that a project will achieve its intended purpose. To achieve this, Project Quality Management involves a range of processes, such as Plan Quality, Perform Quality Assurance, and Perform Quality Control, which verify that project outputs and processes meet the stakeholders' requirements (PMI, 2004). Asnakew (2016) defines quality as the degree to which the outcome of a project is appropriate for its intended use or conforms to the required standards and specifications. This aligns with the fundamental objective of Quality

Management, which is to ensure that the project output meets the stakeholders' expectations and requirements.

Table 4-9: Managing Project Quality

No	Knowledge Area	Mean
5	**Managing Project Quality**	
5.1	Identifies the quality standards and requirements for the project and its deliverables and documents the process for demonstrating compliance with those standards.	2.45
5.2	Conducts audits of quality requirements and quality control measurement data to ensure that acceptable quality standards and operational definitions are implemented.	2.4
5.3	Monitors and records the results of quality activities during the project execution to evaluate performance and suggest any necessary changes.	2.35
Average Managing Project Quality Management Maturity Level		**2.40**

Source: Own survey (2023)

Table 4.9 presents the evaluation of the corporation's quality management practices as perceived by the respondents. The mean value for the quality management practice is 2.40, indicating that the corporation is at a Level-2 maturity level with structured processes and standards. It also suggests that the corporation is striving to reach a Level-3 maturity level with organizational standards and institutionalized processes. However, the current mean value indicates that there is still much effort required to achieve this level of maturity.

4.5.2.6 Maturity Level of Project Human Resource Management Knowledge Area

Project human resource management is a crucial element of project management that involves the organization, management, and leadership of the project team. The four main processes in project human resource management are: developing a human resource plan, acquiring the project team, developing the project team, and managing the project team. These processes are designed to ensure that the project team is appropriately staffed, trained, and supervised to achieve the project's objectives (PMI, 2004). Assessing the practice and maturity level of project human resource management in an organization can be accomplished by analyzing the opinions of respondents on

four fundamental variables or components, which are elaborated in Table 4.10 (reference). This evaluation can provide valuable insights into the organization's strengths and weaknesses in managing human resources for projects.

Table 4-10: Maturity level of project human resource management

No	Knowledge Area	Mean
6	**Managing Project Human resource**	
6.1	Identifies and documents the roles, responsibilities, required skills, and reporting relationships for the project, and creates a plan for managing staff.	2.65
6.2	Confirms that there are enough human resources available and recruits the team needed to complete project activities.	3
6.3	Enhances project performance by improving competencies, team member interaction, and the overall team environment.	2.8
6.4	Tracks the performance of team members, provides feedback, handles problems, and organizes adjustments to improve project performance.	2.55
Average Managing Project Human Resource Management Maturity Level		**2.70**

Source: Own survey (2023)

According to the results, the corporation's mean project human resource management maturity level is 2.7, indicating a Level-2 maturity level with structured processes and standards. Respondents expressed that, certain aspects of human resource management could be improved, such as enhancing competencies, team member interaction, and overall team environment to improve project performance (mean value of 2.8). Furthermore, inadequate implementation was observed for tracking team member performance, offering feedback, addressing concerns, and managing modifications to maximize project performance (mean value of 2.55). As a result, improved processes and management support are required to raise the corporation's human resource management maturity level as well as overall project.

4.5.2.7 Project Communications Management Knowledge Area Maturity Level

Project communication management refers to the set of processes that are used to plan, manage, monitor, and control the flow of information within a project. It involves the systematic and timely dissemination of relevant and accurate project information to stakeholders, including project team members, sponsors, customers, and other external parties. The primary objective of project communication management is to ensure that all stakeholders receive the right information at the right time, in the right format, and with the right level of detail to support project decision-making, performance, and success. Effective project communication management is critical for maintaining stakeholder engagement, fostering collaboration, managing expectations, resolving conflicts, and ensuring project success. (PMI, 2004).

The project communications management practice can be evaluated by assessing the effectiveness of the communication processes and strategies used to manage project information and stakeholder engagement. This evaluation can be based on three basic variables shown in the below table.

Table 4-11: Project communications management maturity level

No	Knowledge Area	Mean
7	**Managing Project Communications**	
7.1	Develops an appropriate plan for project communication based on stakeholder information needs and organizational assets.	1.7
7.2	In compliance with the communications management plan, creates, collects, distributes, stores, retrieves, and disposes of project information.	2
7.3	Monitors and regulates communications throughout the project life cycle to ensure that project stakeholders' information demands are met.	1.9
Average Managing Project Communications Management Maturity Level		**1.73**

Source: Own survey (2023)

According to the outcome, the corporation's total mean maturity level is 1.73, which is at level-1. (ad-hoc processes) indicating that the corporation's communication management practices are at a Level-1 maturity level, characterized by ad-hoc processes and a lack of formal communication management practices. The primary limitation of the corporation's project communications management is identified in the processes of creating, collecting, distributing, storing, retrieving,

and disposing of project information in alignment with the communications management plan. This limitation is reflected in the mean maturity level of 1.7.

4.5.2.8 Maturity Level of Project Risk Management Knowledge Area

Project risk management is the process of identifying, assessing, and responding to potential risks that may impact a project's objectives. The primary objectives of project risk management are to minimize or eliminate risks that may have a negative impact on the project and maximize opportunities that may have a positive impact. The risk management process involves four key steps: risk identification, risk assessment, risk response planning, and risk monitoring and control. Effective project risk management can help organizations to identify and manage potential risks, minimize the impact of risks on the project objectives, and increase the likelihood of project success. (PMI, 2017).

Table 4-12: Project Risk Management Maturity level

No	Knowledge Area	Mean
8	**Project Risk Management**	
8.1	Determines how to approach and plan project risk management operations.	3.5
8.2	Identifies and documents the characteristics of potential risks that could impact the project.	4
8.3	Risks are prioritized for further investigation or action based on their likelihood of occurrence and impact.	3.75
8.4	Analyzes the potential effect of identified risks on overall project objectives.	3.7
8.5	Develops options and actions to capitalize on opportunities and mitigate threats to project objectives.	3.9
8.6	Implements risk response plans, tracks identified risks, monitors residual risks, identifies new risks, and evaluates the effectiveness of the risk management process throughout the project.	3.
Average Project Risk Management Maturity Level		**3.61**

Source: Own survey (2023)

Table above outlines the six key variables that were evaluated to determine the project risk management mean maturity level based on respondents' opinions. The overall mean maturity level

for project risk management in the corporation is 3.61, indicating a Level-3 maturity level with an organizational standard and institutionalized procedure. The mean maturity levels in Table 4.12 are aiming to meet industry or organizational requirements, showing that processes are in place and documentation exists. However, additional effort is required to efficiently execute these processes, identify hazards prior to project execution, and correctly plan for them.

4.5.2.9 Maturity Level of Project Stakeholders Management Knowledge Area

Project Stakeholder Management is a knowledge area in project management that involves identifying, analyzing, and managing stakeholders' needs, interests, and expectations throughout the project life cycle (PMI, 2013). It includes four key processes: identifying stakeholders, planning stakeholder engagement, managing stakeholder engagement, and monitoring stakeholder engagement. Stakeholders are individuals or groups who can affect or be affected by the project's outcomes, objectives, or deliverables. The primary focus of the Project Stakeholder Management knowledge area is to ensure effective stakeholder engagement, communication, and collaboration to enhance project success and stakeholder satisfaction (PMI, 2013).

Table 4-13: Project Stakeholder management Maturity Level

No	Knowledge Area	Mean
9	Project Stakeholder management	
9.1	Identifies the stakeholders that may be impacted by or have an impact on a project decision, activity, or outcome, and documents relevant information.	3.9
9.2	Develops appropriate strategies for effectively engaging stakeholders throughout the project life cycle, taking into account their needs, interests, and possible impact on project success.	4

9.3	Communicates and collaborates with stakeholders throughout the project life cycle to fulfill their requirements and expectations, handle issues as they emerge, and promote proper stakeholder engagement in project activities.	3.15
9.4	Monitors overall project stakeholder interactions and, as needed, revises methods and plans for engaging stakeholders.	2.9
	Average Project Stakeholder Management Maturity Level	**3.43**

Source: Own survey (2023)

Table 4.13 displays the assessment of the corporation's project stakeholder management maturity level, which was evaluated based on the opinions of respondents using four major components. The mean maturity level for stakeholder management is 3.43, indicating a Level-3 process. This means that the corporation has established standardized processes for stakeholder management and has implemented them throughout the project life cycle. However, there is still room for improvement in terms of optimizing stakeholder management processes and addressing stakeholder needs and expectations more effectively.

4.5.2.10 Maturity Level of Project Procurement Management Knowledge Area

Procurement management is a critical knowledge area in project management that involves acquiring services from contractors to support project objectives. The procurement management process includes several key processes, including procurement planning, solicitation planning, source selection, contract administration, and contract closeout. These processes ensure that the organization obtains the necessary services at the right time, in the right quantity, and at the right cost. The contract management process is an essential part of procurement management that involves managing the procurement contract from initiation to closure. It includes processes such as contract negotiation, contract execution, contract monitoring, and contract closeout. Effective contract management ensures that the procurement contract is executed according to the agreed terms and conditions, and that all parties comply with the contractual obligations (PMI, 2004).

Table 4-14: Maturity level of project procurement management

No	Knowledge Area	Mean
10	Documents project procurement decisions, specifies the approach, and identifies potential sellers.	
10.1	Solicits seller responses, selects a seller, and awards a contract.	2.7

10.2	Manages procurement relationships, monitors contract performance, and makes changes and corrections as needed.	3
10.3	Each project procurement are completed effectively.	2.75
10.4	Documents project procurement decisions, specifies the approach, and identifies potential sellers.	2.65
Average Project Procurement Management Maturity Level		**2.76**

Source: Own survey (2023)

Table 4.14 demonstrates that the Average Project Procurement Management Maturity Level is 2.76, indicating that the procurement management processes are at a Level-2 maturity level. However, the maturity level is close to Level-3, which indicates that the procurement management processes are becoming more standardized and repeatable.

4.6 Overall Project Management Maturity Level

Table 4.15 displays the mean maturity level results for each project management knowledge area, indicating that the maturity levels range from 1.73 to 3.68. Managing Project Scope, Managing Project Integration, Managing Project Time, Managing Project Cost, Managing Project Quality, Managing Project Human Resource, Project Stakeholder Management, and Project Procurement Management are all at Level-2, with structured processes and standards. However, Project Risk Management has reached the next level of maturity, which is Level-3, with organizational standards and institutionalized processes.

Table 4-15: Overall project maturity level of TotalEnergies Ethiopia SC.

Variables	Mean
Managing Project Scope	2.11
Managing Project Integration	2.19
Managing Project Time	2.26
Managing Project Cost	2.84
Managing Project Quality	2.40
Managing Project Human resource	2.70

Managing Project Communications	1.73
Project Risk Management	3.68
Project stakeholder management	2.89
Project Procurement management	2.76
Average Maturity Level	**2.56**
Initiating	3.00
Planning	3.08
Executing	2.83
Controlling	2.20
Closing	2.83

Source: Own survey (2023)

The average maturity value of the ten project management knowledge categories is 2.56, or 51% of the maximum potential score of 5 points. This indicates that the company's project management maturity is at Level-3, as evidenced by organizational standards and institutionalized processes.

Figure 2: The maturity level of the corporation's PMBOK areas

All project management principles are present and are recognized as organizational standards, with most projects employing these standards and management regularly participating in crucial decision-making processes.

This chapter provides a detailed analysis of the characteristics of the respondents, their experience and educational background in project management, their training in project management, and their level of optimism in applying project management knowledge areas. The analysis reveals that the respondents have significant experience in project management, possess good educational qualifications, and lack adequate training in project management.

According to the study, respondents are hopeful about their application of project management knowledge areas, despite the fact that the organization has not fully completed the requirements of Level three in terms of project management maturity. This shows that there is space for improvement in the organization's use of project management practices.

The analysis of the data also shows that the knowledge area of risk management has a comparatively higher level of maturity compared to the other knowledge areas. This suggests that the organization has been successful in implementing risk management practices to some extent.

Overall, the chapter provides a comprehensive overview of the current state of project management practices within the organization. The findings of the study suggest that while the organization has a good foundation in project management, there is scope for improvement in terms of training, implementation, and maturity in certain knowledge areas. The chapter provides valuable insights that can be used to make informed decisions about future project management initiatives within the organization.

CHAPTER FIVE

5 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The study tried to evaluate the project management maturity level of Total Energies Marketing Ethiopia S.C with the objective to enhance project outcomes and reduce project costs. The study assessed the organization's project management framework, identified areas of improvement to enhance the project management maturity of the company. The study used a mixed-methods approach to collect data from the total population of project managers and stakeholders within TotalEnergies Marketing Ethiopia S.C. The study found that the respondents had prior experience in project management and were familiar with project management practices. However, there was a low level of female participation in leading and managing engineering projects at the company. The majority of respondents were well-educated and had a good understanding of project management maturity levels. The study also revealed a need for the company to invest more in training programs to improve the project management skills and knowledge of its employees. The study evaluated the company's project management maturity level in each project management process group and knowledge area to assess its overall project management maturity level.

Accordingly, the research findings show that Total Energies Marketing Ethiopia S.C has an overall project management maturity level of Level-3, with a mean maturity result of 2.56. The company's project management maturity level in different knowledge areas ranges from Level-1 to Level-3. The project risk management and stakeholder management processes are at a Level-3 maturity level, while the project communication management process is at a Level-1 maturity level. The overall average maturity value of the ten project management knowledge areas is 2.56, which

suggests that the company's project management maturity level is characterized by organizational standards and institutionalized processes.

5.2 Recommendation

Based on the research findings, the following are some recommendations for Total Energies Marketing Ethiopia S.C to improve its project management maturity level:

- Invest in training programs to improve project management skills and knowledge.
- Focus on improving communication and integration management processes to enhance project management maturity and project outcomes of the company.
- Review and update project management policies and procedures to ensure alignment with industry standards and best practices.
- To improve their project scope management maturity level, the organization can focus on enhancing their processes and procedures for defining and controlling project scope, developing and implementing effective communication plans, and providing appropriate training and development opportunities for project team members. They can also invest in project management software and tools to assist with scope management activities.

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APPENDIX: QUESTIONNAIER

Dear Sir/Madam,

I am currently working on a research project for my Master's degree in Project Management. My project is titled "*Project Management Maturity Level: The Case of TotalEnergies Marketing Ethiopia S.C*". As part of this academic study, I am conducting a survey to evaluate the current level of project management maturity and the utilization of project management knowledge in TotalEnergies Marketing Ethiopia S.C.

Your completion of this survey questionnaire is crucial for the success of my research. Your valuable time and effort will help to advance and improve project management in our company. I am grateful for your cooperation and appreciate your willingness to respond. Please note that your name is not required to be written, and your information will be treated with the utmost confidentiality and used solely for this academic study.

Thank you for your time and cooperation.

Sincerely,

Hermella Begashaw

0988346604

Part I. General Information

1. Gender: ☐ Male ☐ Female
2. Service year in TotalEnergies Marketing Ethiopia S.C:
   - ☐ 0-3years ☐ 4-6years
   - ☐ 7-9years ☐ >10years
3. Level of Education:
   - ☐ Diploma ☐ First degree/Bachelor
   - ☐ Second degree/Masters ☐ Others

   If others please specify_____
4. Current position in the organization: _____
5. Have you received a formal training, outside the company, in Project Management?

   ☐ Yes ☐ No

   If yes, please specify the type and level of training you received

   _____
6. Have you attended any project management training sessions provided by the company?

   ☐ Yes ☐ No

   If yes, please specify the type of training you received

   _____
7. Before taking on your current role, did you ever work on a project management team? (It might possibly be in another company.)

   ☐ Yes ☐ No

   If yes, please specify the type of training you received

   _____
8. Do you think using project management expertise would help TotalEnergies marketing Ethiopia S.C. projects continue to enhance their process going forward?

   ☐ Yes ☐ No

Part II. Project Management Process and Knowledge Areas General direction:

Maturity Level 1-Initial Process

- Processes- No recognized practices and standards.
- Documentation- Loose and ad-hoc.

- Management- Management understands the definition of a project and is aware of the need for project management.
- Metrics- Collected informally in an ad-hoc basis.

Maturity Level 2 - Structured process and standards

- ❖ Processes- Processes exist but are not considered an organizational standard.
- ❖ Documentation- Documentation exists on the basic processes
- ❖ Management- Management supports the implementation of project management but understanding and involvement is not consistent/ applied to all projects. Large projects are executed in a systematic fashion and management is involved in such projects.
- ❖ Metrics- Basic metrics to track cost, schedule and technical performance exist.

Maturity Level 3- Organizational standards and institutionalized process

- ❖ Processes- All project management processes are in place and established as organizational standards. These processes involve the clients as members of the project team. Nearly all projects use these processes.
- ❖ Documentation- Documentation exists on all the processes.
- ❖ Management- Management is regularly involved in input and approval of key decisions.
- ❖ Metrics- Metrics are formally collected and each project is evaluated and managed in light of other projects.

Maturity Level 4- Managed Process

- ❖ Processes- Project management processes, standards and supporting systems are integrated with other corporate processes and systems.
- ❖ Documentation- Processes and standards are documented to support using metrics to make project decisions.
- ❖ Management- Management understands its role in the project management process. There are different management styles and project management requirements for different projects.
- ❖ Metrics- Efficiency and effectiveness metrics are used. All projects, changes and issues are evaluated based upon metrics from cost estimates, baseline estimates, and earned value calculations.

Maturity Level 5- Optimizing Process

- Processes- Processes are in place and actively used to improve project management activities.
- Documentation- Lessons learned are regularly examined and used to improve project management processes, standards, and documentation.
- Management- Management is focused not only on effectively managing projects but also on continuous improvement.
- Metrics- The metrics collected during project execution are used to understand the performance of a project and to assist in the making of organizational management decisions for the future.

Note:

1=Maturity Level 1-Initial Process

2=Maturity Level 2- Structured process and standards

3=Maturity Level 3- Organizational standards and institutionalized process

4=Maturity Level 4- Managed Process

5=Maturity Level 5- Optimizing Process

Please rate each of the following project management process or statements according to the maturity levels on the above explanation for each of the maturity level, by making an in the appropriate box.

No	Five Key Project management Process groups (Characteristics)	Maturity Levels				
		1	2	3	4	5
1	**Initiating**					
	Project Management Process is defined and standard					
	Availability of Policy or guideline for Project Planning and execution.					
	Proper Identification of stake holders					
2	**Planning**	1	2	3	4	5
	Complete and inclusive planning is undertaken before execution					
	Organizational guideline is tailored to specific projects.					
	There is effective Risk Management Plan					
3	**Executing**	1	2	3	4	5
	Organization/project resources needed to perform project activities					
	Knowledge or experience of Peoples involved in performing projects					

	Performance of quality assurance					
4	**Controlling**	**1**	**2**	**3**	**4**	**5**
	Project monitoring, controlling and review is undertaken to ensure it complies to standards and procedures					
	Remedial measures or plan revision are taken after controlling Processes					
	Scope of projects is controlled					
5	**Closing**	**1**	**2**	**3**	**4**	**5**
	Contract closeout procedures are effective					
	Project data collection and lessons learned from planning and execution for use in the future in process improvement					
	Effectiveness of Project closure stage					

Ten Project Management Bodies of Knowledge domains' on the level of project management maturity

Ten Key Project management Knowledge Areas	**Ascending Maturity level from 1-5**				
1. Managing Project Scope	**1**	**2**	**3**	**4**	**5**
Projects are developed with exhaustive description					
Scope management plan is drafted with detail in the project's definition, verification, and control					
Stakeholder needs and requirements are Identified, documented, and managed to achieve project goals					
Project deliverables and project work are clearly subdivided into smaller and more manageable components					
There is formalized method for acceptance of completed project deliverables					
The status of project scope are Monitored and changes are managed to the scope baseline					
2. Managing Project Integration	**1**	**2**	**3**	**4**	**5**
Documents are created to formally authorize the existence of a project and grant the project manager the authority to allocate organizational resources towards project activities.					
All subsidiary plans are Defined, prepared, and coordinated and integrated into a comprehensive project management plan.					
Changes are coordinated across the entire project.					
The process of monitoring, evaluating, and communicating project advancement in accordance with the performance objectives is outlined in the project management plan.					
The tasks stated in the project management plan, are carried out with proper leadership and accepted adjustments are implemented, in order to fulfill the project's goal.					
All activities across all of the Project Management Process Groups are Finalized to formally complete the phase or project.					
3. Managing Project Time	**1**	**2**	**3**	**4**	**5**
Developed the guidelines, procedures, and documentation necessary to plan, execute, and control the project schedule.					

Identified the tasks involved in the project and documented how they were related to each other.					
Determined the specific tasks required to complete all the project deliverables.					
Estimated the resources (such as materials, labor, and equipment) needed for each task, as well as the time required to complete it.					
Calculated how many work periods (e.g. days, weeks) were needed to finish each task based on the estimated resources.					
Analyzed the order of tasks, how long they would take, and the resources required to create a model of the project schedule.					
Kept track of the project's progress, updating the project schedule as necessary to reflect any changes and ensure that it remained on track with the plan.					
4. Managing Project Cost	**1**	**2**	**3**	**4**	**5**
Creates the guidelines, procedures, and documentation necessary to plan, manage, spend, and control project costs.					
Develops an estimate of the financial resources required to complete project activities.					
Combines the estimated costs of individual activities or work packages to establish an approved cost baseline.					
Tracks the project's progress to update the project costs and manages any changes to the cost baseline.					
5. Managing Project Quality	**1**	**2**	**3**	**4**	**5**
Identifies the quality standards and requirements for the project and its deliverables, and documents the process for demonstrating compliance with those standards.					
Conducts audits of the quality requirements and the results of quality control measurements to ensure that the appropriate quality standards and operational definitions are being used.					
Monitors and records the results of quality activities during the project execution to evaluate performance and suggest any necessary changes.					
6. Managing Project Human resource	**1**	**2**	**3**	**4**	**5**
Identifies and documents the roles, responsibilities, required skills, and reporting relationships for the project, and creates a plan for managing staff.					
Confirms that there are enough human resources available and recruits the team needed to complete project activities.					
Enhances project performance by improving competencies, team member interaction, and the overall team environment.					
Tracks team member performance, provides feedback, resolves issues, and manages changes to optimize project performance.					
7. Managing Project Communications	**1**	**2**	**3**	**4**	**5**
Develops an appropriate plan for project communication based on stakeholder information needs and organizational assets.					
Creates, collects, distributes, stores, retrieves, and disposes of project information in accordance with the communications management plan.					
Monitors and controls communications throughout the entire project life cycle to ensure that the information needs of project stakeholders are met.					
8. Project Risk Management	**1**	**2**	**3**	**4**	**5**
Determines how to approach and plan risk management activities for a project.					

Identifies and documents the characteristics of potential risks that could impact the project.					
Prioritizes risks for further analysis or action by assessing their probability of occurrence and impact.					
Analyzes the potential effect of identified risks on overall project objectives.					
Develops options and actions to capitalize on opportunities and mitigate threats to project objectives.					
Implements risk response plans, tracks identified risks, monitors residual risks, identifies new risks, and evaluates the effectiveness of the risk management process throughout the project.					
9. Project Stakeholder management	**1**	**2**	**3**	**4**	**5**
Identifies the stakeholders that may be impacted by or have an impact on a project decision, activity, or outcome, and documents relevant information.					
Develops appropriate strategies to engage stakeholders effectively throughout the project life cycle, based on their needs, interests, and potential impact on project success.					
Communicates and collaborates with stakeholders to meet their needs and expectations, address issues as they arise, and promote appropriate stakeholder engagement in project activities throughout the project life cycle.					
Monitors overall project stakeholder relationships and adjusts strategies and plans for engaging stakeholders as needed.					
10. Project Procurement management	**1**	**2**	**3**	**4**	**5**
Documents project procurement decisions, specifies the approach, and identifies potential sellers.					
Solicits seller responses, selects a seller, and awards a contract.					
Manages procurement relationships, monitors contract performance, and makes changes and corrections as needed.					
Each project procurement are completed effectively.					

Thank you for your time!