

Challenges Encountered by Private Construction Project Managers in Completion Time in San Mateo, Isabela

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Abstract: This study aimed to identify the challenges encountered by private construction project managers in completion time in San Mateo, Isabela. The descriptive method was utilized, with a questionnaire serving as the primary data collection tool. Statistical tools, including the weighted mean and Likert scale, were employed to analyze and interpret the data. Results of the study revealed that: 1) The surveyed respondents were predominantly Filipino males, primarily aged between 20 and 50 years old, with the majority holding Bachelor's degrees. The companies represented varied in years of operation, with most established for more than 10 years and employing fewer than 50 people. Many respondents held managerial role and had been with their company for over 3 years. Project types under the Design & Build option encompassed diverse categories such as office building, residential houses, hotels, commercial, and public roads and highways. 2) The respondents agree that there are main challenges faced by construction project managers in San Mateo, Isabela in terms of procurement system, currency costing, logistics delay, project management and delay in completion. Proposed measures to improve timely completion of construction projects encompass several strategic initiatives across key areas. Firstly, for the procurement system, efforts include diversifying supplier relationships, enhancing technical specifications, and improving procurement planning to streamline processes and expedite decision-making. Secondly, addressing currency costing involves enhancing project planning stability, implementing robust change management, and conducting comprehensive feasibility studies to mitigate risks from external factors like currency fluctuations. Thirdly, mitigating logistics delays focuses on optimizing transportation methods, improving procurement efficiency, and enhancing personnel skills. Fourthly, enhancing project management entails developing comprehensive skill sets for project managers, emphasizing effective planning and execution, and promoting collaborative team engagement and problem-solving. Lastly, addressing delays in project completion involves proactive payment management, client engagement, and robust risk management strategies to preemptively manage operational challenges and ensure timely project delivery.

Keywords: construction challenges, private construction, project managers, completion time.

1. Introduction

Project management is a critical discipline that encompasses the planning, execution, and monitoring of tasks and resources to achieve specific goals within defined constraints (Nicholas

& Steyn, 2020). In today's business environment, where organizations are continually striving to innovate and adapt to changing market conditions, effective project management practices are more essential than ever.

Studies on construction project delivery often emphasize the significance of schedule performance, considering it a crucial aspect of project success. Timely completion is particularly critical for projects in the heavy industrial sector, where facilities must be operational to initiate production and generate revenue for companies (Safapour, 2020). Despite this importance, these projects frequently encounter substantial delays and extensions, which can be attributed to various management challenges.

Poor management practices, such as incomplete scope definition, inadequate monitoring and control, insufficient site supervision, and deficient front-end planning, contribute significantly to schedule disruptions (Yayok, 2022). Additionally, communication gaps among project participants and unforeseen site conditions further exacerbate delays. Addressing these issues is essential for mitigating schedule overruns and ensuring timely project completion.

Reducing delays and extensions not only improves the financial performance of the organizations involved but also has broader economic implications. By completing projects on time, companies can optimize revenue generation and free up resources for investment in new ventures. This, in turn, stimulates economic growth and fosters a conducive environment for future development initiatives. Thus, effective management of project schedules is crucial not only for individual project success but also for the overall prosperity of the economy.

The project management has evolved significantly over the years, driven by advancements in technology, changes in organizational structures, and shifts in stakeholder expectations. Consequently, understanding the challenges that underpin successful project management has become increasingly complex. By examining the methodologies and techniques employed, this research seeks to distill the essential elements that contribute to construction project success.

However, alongside the myriads of challenges, project

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managers must navigate a landscape fraught with time completion. From resource constraints and scope creep to communication breakdowns and stakeholder conflicts, the path to project success is riddled with potential pitfalls. This research endeavors to identify and analyze these challenges, providing insights into their root causes and potential mitigation strategies.

A. Background of the Study

The study of the five private construction projects is chosen and are now being carried out in San Mateo, Isabela. This is under the infrastructure and residential categories.

San Mateo, Isabela, a municipality located in the Philippines, is experiencing rapid urbanization and infrastructure development, leading to a surge in construction projects across various sectors. In this context, the effective management of construction projects becomes paramount to ensure timely completion, cost-efficiency, and adherence to quality standards. However, the unique challenges inherent in construction project management necessitate a comprehensive understanding of time completion tailored to the local context and the identification of specific challenges that may arise.

The construction industry in San Mateo, Isabela, faces several distinctive factors that influence project management practices. These include geographical considerations such as terrain and climate, regulatory requirements, availability of skilled labor and materials, as well as cultural and socio-economic dynamics. Moreover, the diversity of construction projects, ranging from residential buildings to infrastructure development, adds complexity to project management processes.

Understanding the time completion in construction project management is crucial for stakeholders involved in the planning, execution, and delivery of projects in San Mateo, Isabela. Effective project management methodologies, innovative technologies, and strategic planning are essential to optimize resource allocation, mitigate risks, and ensure project success.

However, alongside the implementation of right time project completion, construction project managers in San Mateo, Isabela, must also contend with various challenges. These may include budget constraints, delays in regulatory approvals, fluctuating material costs, skilled labor shortages, as well as issues related to safety and environmental compliance. Addressing these challenges requires a proactive approach and the development of strategies tailored to the local context.

Given the significance of construction projects in driving economic growth and improving infrastructure in San Mateo, Isabela, there is a pressing need for research that examines the challenges of construction project management in completion time in this locality. By conducting a thorough analysis, this study aims to provide valuable insights and recommendations that can enhance the efficiency, effectiveness, and sustainability of construction projects in San Mateo, Isabela, ultimately contributing to the overall development and well-being of the community.

B. Research Questions

- 1) *What is the Profile of the Respondents in Terms of:*
 1. Sex
 2. Age
 3. Nationality
 4. Highest Level of Education
 5. Years of Firm Operation
 6. Position in the Company
 7. Length of Service
- 2) *What are the Main Challenges Faced by Construction Project Managers in San Mateo, Isabela in Terms of:*
 1. Procurement System
 2. Currency Costing
 3. Logistics Delay
 4. Project Management
 5. Causes of the Delay
- 3) *What Measures can be Proposed to Improve Timely Completion of Construction Projects?*

C. Significance of the Study

The proposed study serves as a guide or basis in order to have knowledge of the challenges in completion time in a building construction project. In addition, the results of this study will be beneficial to the following:

Students: This study provides students with valuable insights into the real-world application of project management principles in the construction industry, specifically in the context of San Mateo, Isabela. By understanding the challenges in completion time and in construction project management, students can gain practical knowledge that complements their theoretical understanding, preparing them for future careers in construction management or related fields.

Researchers: The findings of this study offer researchers a foundation for further investigation into specific aspects of construction project management in San Mateo, Isabela, or similar contexts. It provides a basis for comparative studies, longitudinal analyses, or deeper dives into particular challenges identified. Additionally, the study may inspire researchers to explore innovative solutions or methodologies to address the identified challenges and enhance project management practices in construction.

Future Researchers: Future researchers can build upon the findings of this study to explore new avenues or expand the scope of inquiry in construction project management. They can use the identified challenges in completion time as a springboard for designing research projects aimed at addressing gaps in knowledge or testing the effectiveness of proposed solutions. Furthermore, the study may stimulate interdisciplinary research collaborations to tackle complex issues within the construction industry, fostering innovation and progress.

Practitioners: Construction project managers and industry professionals can benefit from the insights gained in this study by applying recommendation to improve project outcomes and mitigate challenges in their own projects.

Policy Makers and Stakeholders: The findings of this study can inform policy decisions and strategic planning initiatives

aimed at improving the regulatory environment, infrastructure development, and economic growth in San Mateo, Isabela. By understanding the challenges faced by construction project managers and the factors influencing project success, policymakers can implement targeted interventions and supportive measures to facilitate the efficient and effective delivery of construction projects, benefiting the local community and economy.

D. Theoretical Background

1) Theoretical Framework

Project management performance is focused on the triple constraints: control of time, cost, and progress of the project (Panchal and Khokrale, 2024). The decision of this study to focus on the most used practices and not the most useful as related to the fact that it is more difficult for practitioners to evaluate the usefulness of a project management practice than its extent of use.

According to Netshiswinzhe (2022) the use of the best project management practices leads to added business value, greater benefit realization, and better benefit management activities.

2) Conceptual Framework

The study is anchored in the basic system framework of input-process-output. The input box contains the conduct of survey with project stakeholders to gather insights on project practices and challenges.

The process box includes identification of key project management practices that contribute to timely project completion

The output box presents the proposed recommendations for improving project completion time in San Mateo, Isabela.

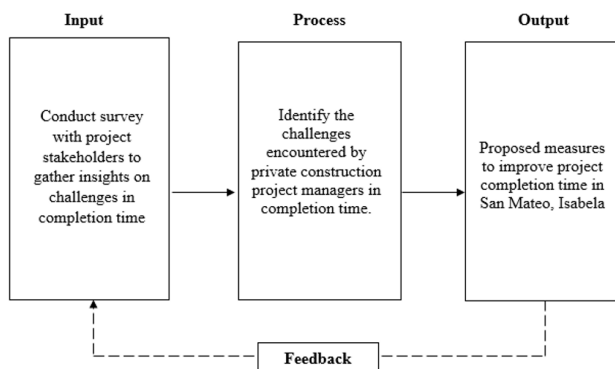


Fig. 1. Paradigm of the study

E. Literature Review

1) Project Success

Pace (2019) states that project success has undergone significant evolution over time, with early criteria focusing primarily on time, cost, and quality (or scope). However, modern perspectives recognize the need to encompass broader organizational benefits beyond mere project management success. The lack of a universally agreed-upon definition remains a prominent issue in project management literature, prompting ongoing efforts to delineate success criteria and critical factors influencing project outcomes.

Griffith and Watson (2023) suggest that successful organizations are those that have significantly transformed or restructured their operational procedures. As a result, other industries such as manufacturing and petrochemicals often experience improved opportunities in attracting skilled labor, either through offering superior working conditions or higher levels of compensation. Efforts to enhance construction site management processes have been concentrated on reforming practices to better meet customer needs and enhance performance metrics like quality, timeliness, efficiency, and reliability, all while striving to lower production costs. Numerous management approaches have been employed to advance construction site management, including total quality management, just-in-time methodologies, business process re-engineering, concurrent engineering, and knowledge management.

Factors for achieving these three objectives include the following: good project definition and a sound business case at the outset; Appropriate choice of project strategy; Strong support for the project and its manager from higher management; Availability of sufficient funds and other resources; Firm control of changes to the authorized project; Technical competence; A sound quality culture throughout the organization; A suitable organization structure; Appropriate regard for the health and safety of everyone connected with the project; Good project communications; Well-motivated staff; Quick and fair resolution of conflict. These issues are all important for good project management. Some projects fail to satisfy all their objectives yet can be considered, in retrospect, to have been successful. For example, the Eurotunnel was seriously overspent yet those of us who use it would consider it a great success.

2) Construction Industry

Construction industry refers to the industrial branch of manufacturing and trade related to building, repairing, renovating, and maintaining infrastructures. It is a determinant of the country's technological and technical advancement, often regulating the growth of the country's infrastructural development that often directs to the country's advancement in terms of sustainability assurance. Unfortunately, the construction industry is currently one of the largest waste generating industries (Hussain, 2021).

The construction industry is recognized as a sector with great contribution to the economic and social development of a country, particularly due to the number of direct and indirect jobs generated and its influence on several other sectors which produce materials, equipment, and services in its production process (Paz, 2020). It is usually one of the first sectors to signal a region's financial situation, in times of both exponential growth and economic recession. On the other hand, population growth in large urban centers has led to an increase in the demand for the construction industry in the last decades in several sectors, which has led to generation of a significant volume of construction and demolition waste.

3) Construction Management

Harris (2021) construction management addresses the effective planning, organization, application, coordination,

monitoring, control, and reporting of the core business processes of marketing, procurement, production, administration, accounts, and finance necessary to achieve economic success and/or profitability for an enterprise or organization engaged in the provision of construction facilities. The functions may be performed by a client, contracting company, consultant firm, public body or a combination of such stakeholders contracted to bring a project or series of projects to safe completion on time, to budget, to the set quality and expected innovative, aesthetic, socially responsible, and environmental impact.

Construction Project Management focuses on the delivery of a specific solution by contracting with stakeholders who undertake combinations of the following indicative sub-processes relating to a specific project: Scoping and budgeting the project; Design coordination/management; Establishing the management structure of the management team; Marketing and procurement; Defining roles and responsibilities; Estimating and tendering; Stakeholder management; Project and construction methods planning, coordination, and control; Value and risk management; Organizing, leading, and implementing controls; Production and productivity management; Management of labour resources, temporary works provision, equipment, plant, subcontractors, and suppliers; Time and subcontractor interface management; Cost and budgetary control, including cash flow forecasting; Quality management; Contract and progress payments administration; Legal issues; Information and communications technology (ICT) management; Health and Safety management, education, training and welfare provision; Corporate Social Responsibility (CSR); Management of the potential environmental impacts of construction; Commissioning, auditing, and recording of the project(s) (Harris, 2021).

4) *Project Management*

Fewings and Henjewe (2019) state that project management involves not only the application of a specific set of tools but also the motivation of people and the responsibility to achieve goals and to perform within constraints. It requires proactive and reactive behavior in a dynamic situation. It is an integrated approach that brings many different parts together. The following definitions may be useful; project management is a) the application of knowledge, skills and techniques to execute projects effectively and efficiently. It is a strategic competency for organizations, enabling them to tie project results to business goals. b) the application of methods, tools, techniques and competences to a project to achieve goals. It includes the integration of the various phases of the project life cycle and ensures efficient use of resources, satisfying the needs of the project stakeholders. c) the planning, organizing, monitoring and controlling of all aspects of a project and the management and leadership of all involved to achieve the project objectives, safely and within agreed criteria for time, cost, scope and performance/quality.

Armenia *et al.* (2019) proposes a new conceptual framework linking five key dimensions of sustainable project management: corporate policies and practices, resource management, life cycle orientation, stakeholders' engagement, and

organizational learning.

Kerzner (2019) states that project management allows us to lower our cost of operations by accomplishing more work in less time and with fewer resources, without any sacrifice in quality or value. Project management provides us with better control of scope changes. Good project managers try to avoid unnecessary scope changes.

5) *Project Engineers*

Kourmentza (2022) states that a Project Engineers are professionals who are responsible for all technical and engineering aspects of their assigned projects. They plan, schedule, predict, and manage all the technical tasks of their assigned project to assure accuracy, proper resources, and quality from start to finish.

Simplilearn (2023) states that the project engineers manage any technical or engineering projects. The engineers are technical leaders who approach the job from an engineering perspective. They work closely with all project stakeholders and are responsible for managing the project's budget, planning, and personnel to ensure every element meets technical requirements.

6) *Responsibilities of the Engineer*

Performance monitoring of the contract is a key function of proper contract administration. The purpose is to ensure that the contractor is performing all duties in accordance with the contract and for the employer to be aware of and address any developing problems or issues.

Usually, a contract is monitored based on time, cost and quality using the contractor's works program, contract price and contract specification as baselines respectively.

An engineer is responsible for supervision of construction works, to ensure the works meet the required standards stipulated in the specifications/employer's requirements. Usually this is achieved through establishment of quality control and quality assurance procedures to monitor the quality of works, materials, plants and workmanship. The Engineer shall ensure quality of works through tests, inspections, investigations and quality audits (Samarathunga, 2022).

7) *Risk in Construction Industry*

Having a risk management in a building construction project is the most challenging part of a project because the task of molding the minds of the workers is a very serious matter. It is a lot easier to build a project without having or encountering any risks, some engineers would say, accordingly, it is very impossible for a project to not to have any risk encounters and having a risks in a building construction project is the most worrying matter too, especially for the newly full-fledged engineers.

Pangilinan *et al.* (2019) stated that risk is the main attraction in construction because of time and cost over-runs associated with construction projects. Risk in relation to construction that variation results in uncertainty as to the final cost, quality of the project and duration as a variable in the process of a construction project. Pangilinan's study used descriptive survey method. It involved the use of semi-structured interview and survey questionnaires in gathering the needed responses to describe the extent of implementation of risk management

process and degree of seriousness of the problem encountered obtained from construction companies in Metro Manila accredited by Philippine Contractor Accreditation Board. Based on the findings, the following conclusions were drawn (a) most of the construction companies were complying and aware of always incorporating risk in every decision to be done (b) most of the companies had strong leaders who were capable of responding wisely with alertness and had an established team with experience in risk. Thus, Philippine's construction companies are capable for certification in International Standard Organization 31000:2009 - Risk Management Principles and Guidelines.

8) *Construction Safety*

Fang (2020) stated that the unsafe behavior that is seen everywhere on construction sites is the biggest challenge for further improvement of construction safety performance. Focusing on the "human" related issues in construction safety, Fang's paper reviewed the research and practices of safety management and came up with three key elements to look at, namely safety leadership, safety culture, and safety behavior. Through systematic exploration on the connotation of and interaction between safety leadership, safety culture, and safety behavior, a Leadership-Culture-Behavior (LCB) approach for construction safety was proposed with the kernel - leadership driven culture development and behavior control. The LCB approach emphasizes the role of safety leadership to not only directly reduce unsafe behavior but also to fundamentally change the causes of unsafe behavior through safety culture development, ultimately achieving the goal of reducing unsafe behaviors sustainably and preventing accidents. The LCB approach has been implemented in a number of railway and building projects in mainland and Hong Kong SAR, China, and Singapore. Significant improvement of L/C/B has been observed. Taking a high-speed railway project in China as an example, safety leadership, safety culture, and safety behavior of the project stakeholders at all levels were significantly improved.

9) *Best Practices in Construction*

Robu *et al.* (2019) investigated the impact of best practices on the schedule performance of each phase of heavy industrial projects. It was found that seven of the ten practices considered in their study impacted at least one phase, with some practices impacting a number of phases. Three practices were found to be more impactful than others through the Weighted Magnitude - Change Management, Risk Assessment, and Scope Definition. These three practices were also intended to directly address some of the causes of schedule overruns that were mentioned in the introduction. Taking a higher-level view of the meaning and intent of the best practices which showed an impact led to the conclusion that a greater degree of planning and forethought (Scope Definition, Risk Assessment, Constructability, Front-End Participation), well-understood processes (Change Management), and better relationships between stakeholders/project team (Partnering Agreement, Team Building) lead to better schedule performance. By determining the impact of practices at a more granular level, the findings of the study can help practitioners in deciding on the

most appropriate practice to implement by highlighting which phase(s) practice impacts, and the magnitude of the impact. Alternatively, practitioners could use the Weighted Magnitude as a guide for selecting the highest-impact practices. The magnitude of impact could also be combined with data on the cost or time investment of implementing a practice in order to determine the benefit/cost ratio. Lastly, the study has shown how each phase behaves differently with regard to the impact of best practices on different phases. It is speculated that the nature of the activities and deliverables of each phase may partially explain why some best practices impact the duration of specific phases. In conclusion, this study offers a new perspective on analysing project performance by dividing projects into distinct phases and identifying methods of improving each individual phase as opposed to the entire project as a whole.

10) *Synthesis*

From the literature and studies reviewed, it could be surmised that the challenges in completion time construction project management is essential for ensuring the successful execution of construction projects. Several key themes emerge from the literature, shedding light on the factors influencing project management practices and the obstacles commonly encountered in the construction industry.

2. Methods

This section outlines the research design, participants, data collection, analysis, and ethical considerations followed in conducting the study.

A. *Research Design*

This study utilized a descriptive research methodology to explore the challenges in completion time of project management. The descriptive research approach aims to provide a comprehensive and systematic description of a population, condition, or phenomena without delving into the reasons or causation (McCombes, 2020). This methodology allows the study to address questions pertaining to what, where, when, and how, but not the why. By employing a descriptive research strategy, the study can examine one or more variables using a variety of research techniques.

Descriptive research allows for the gathering of in-depth and comprehensive data, offering a foundational understanding for identifying patterns and areas necessitating enhancement. Unlike experimental research, which entails manipulation, the descriptive approach focuses solely on observing and measuring variables.

B. *Study Site and Participants*

The study was conducted in selected private construction projects in San Mateo, Isabela.

Located at the southwestern portion of Isabela in the northern Philippines, the 1st Class Municipality of San Mateo has been declared as an "Agro-Ecological Destination" (Castro & Reyes, 2017). San Mateo is composed of 33 barangays, four (4) of which make up the poblacion, or the urban area, while the rest of the 29 are devoted to agricultural activities. The latest census

reflects the municipality's population at 69,947 people in 12,059 households. According to the San Mateo Comprehensive Land Use Plan 2012 to 2021, a major portion (around 80%) of the municipality has a generally flat terrain.

The participants of this study were the project stakeholders in five private construction projects in San Mateo, Isabela.

C. Population, Sample Size and Sampling Method

The study's population comprises thirty (30) private construction project managers. The researcher selected nine (9) construction firms for detailed analysis. The sampling method employed was total enumeration, ensuring that every construction firm within the selected group was included in the study. This approach allowed for comprehensive data collection and a thorough understanding of the challenges encountered by private construction project managers in completing projects on time in San Mateo, Isabela.

D. Instruments

In this study, data were primarily collected using a questionnaire as the main data gathering instrument. The Questionnaire from the study of Seng (2019) on factors affecting design & build construction project success in Manila, Philippines was utilized.

The survey comprises six sections. The first section pertains to the respondents' profiles, while the second focuses on the procurement strategy of design and build concerning successful completion time. Section three explores into currency costing of design and build in relation to successful completion time, while section four covers logistics delivery of design and build in the same context. Section five addresses project management of design and build, and finally, section six explores the causes of delay in design and build projects.

E. Data Gathering Procedures

Certain procedures were followed to ensure the proper conduct of the research. The researcher sent a letter to the project owners of the nine private construction projects to request permission to conduct the study in the different sites of construction projects currently underway and sought their support and cooperation for granting permission to distribute the questionnaire and ensure immediate retrieval to achieve a 100 percent retrieval rate.

The researcher ensured a well-executed and valid survey process. Additionally, the researcher examined the questionnaires to ensure that respondents have provided proper answers and no questions have been left unanswered before retrieving them. The data were tallied, classified, and presented in tabular form and were subjected to statistical computations to provide more comprehensive insights into the gathered data.

F. Data Analysis

The data gathered underwent statistical treatment as follows:

1. Frequency and Percentage was used to compute the profile of the respondents.
2. Weighted Mean was used to assess the level of implementation and the seriousness of the problems encountered in building construction management.

3. Likert scale was used in rating the evaluation on the survey performed. The Likert scale technique presents a set of attitude statements. Subjects were asked to express agreement or disagreement in a four-point scale. The Likert scale used in the study, measures the extents to which a person agrees or disagrees with the questions. The researcher utilized a 4 – point Likert scale. The scale has the following descriptions:

Scale	Range	Qualitative Description
4	3.25 - 4.00	Great Challenge
3	2.50 – 3.24	Moderately Challenge
2	1.75 – 2.49	Slightly Challenge
1	1.00 – 1.74	Not Challenge

G. Ethical Considerations

Participants in this research were required to sign a consent form, confirming their voluntary participation and acknowledging the researcher's commitment to safeguarding their rights to privacy, anonymity, and confidentiality. They were assured that their responses will be kept confidential and utilized solely for academic and research purposes. Additionally, respondents were informed about the purpose of the analysis. The analysis was conducted with the guarantee that no harm or mistreatment will be inflicted upon any participant by the researcher.

3. Results

This section presents data gathered from the questionnaire. It is divided in two parts profile of the respondents and main challenges faced by construction project managers in San Mateo.

Part 1. Profile of the Respondents

Table 1
Profile of respondents

Characteristics	Frequency	Percentage
Sex		
Male	16	53.33
Female	14	46.67
Age		
20 - 35 years old	5	16.67
36 - 50 years old	18	60.00
51 - above	7	23.33
Nationality		
Filipino	30	100.00
Highest Level of Education		
Bachelor's degree	25	83.33
Master's degree	5	16.67
Years of Firm Operation		
Less than 5 years	2	6.67
5 – 10 years	12	40.00
More than 10 years	16	53.33
Position in the Company		
Senior managerial role	2	6.67
Managerial role	28	93.33
Executive	0	0.00
Non-executive	0	0.00
Length of Service		
Less than 1 year	0	0.00
1 – 3 years	2	6.67
More than 3 years	28	93.33

Table 1 shows the profile of the respondents. The gender distribution among the respondents includes 16 males, constituting 53.33%, and 14 females, making up 46.67%. In terms of age, the majority of respondents (60.00%) fall within the 36 to 50 years old range, with 18 participants. Additionally, 16.67% of the respondents are between 20 and 35 years old, while 23.33% are 51 years old or above.

All respondents are Filipinos nationals. Educational attainment among the respondents shows that 83.33% holds a bachelor's degree, while 16.67% has earned a master's degree. Regarding the duration of firm operation, 6.67% of the firms has been operating for less than 5 years, 40.00% has been in operation for 5 to 10 years, and a significant 53.33% has been operating for more than 10 years.

When considering their position within the company, 6.67% of the respondents are in senior managerial positions, whereas an overwhelming majority of 93.33% hold managerial roles. The length of service of respondents within their respective firms reveals that 6.67% has been serving for 1 to 3 years, and a substantial 93.33% has been with their firms for more than 3 years.

Part 2. Main Challenges Faced by Construction Project Managers in San Mateo

The challenges faced by construction project managers in San Mateo, Isabela are classified in terms of procurement system, currency costing, and logistics delay.

A. Procurement System

Table 2

Mean of responses on procurement system

Procurement methods	WM	Interpretation
1. We normally request quotation from the suppliers	3.33	Great Challenge
2. We use tendering process in our company	3.48	Great Challenge
3. We normally source from the same supplier	3.62	Great Challenge
4. We often change suppliers for different projects	2.56	Moderately Challenge
The decisions taken on procurement confirmation		
5. Procurement confirmation is normally done by the top management	3.46	Great Challenge
6. Procurement confirmation is normally done by the accounts department	3.24	Moderately Challenge
7. Procurement confirmation is normally done by the procurement department	3.47	Great Challenge
8. Procurement confirmation is normally done by the project department	3.16	Moderately Challenge
Thinking about the sourcing of materials for projects.		
9. We often source materials from local suppliers	3.30	Great Challenge
10. We often source materials from foreign suppliers	3.16	Moderately Challenge
11. We often source materials from both local and foreign suppliers	3.24	Moderately Challenge
The causes for procurement delays		
12. Incomplete or wrong technical specifications causes delay in procurement	3.32	Great Challenge
13. Poor overall planning causes delay in procurement	3.20	Moderately Challenge
14. Inefficiency of the procurement team causes delay in procurement	3.16	Moderately Challenge
15. Inefficient negotiation of contracts causes delay in procurement	3.46	Great Challenge
16. Slow approval of the requests for procurement causes delay in procurement	3.13	Moderately Challenge
17. Poor pricing and payment term setting causes delay in procurement	3.46	Great Challenge
Criteria adopted for procurement process.		
18. Opening of the tendering bid is important criteria	3.10	Moderately Challenge
19. Review of related documents is important criteria	3.25	Great Challenge
20. Technical evaluation is important criteria	3.53	Great Challenge
21. Financial assessment is important criteria	3.14	Moderately Challenge
22. Identification of valuable offers is important criteria	3.21	Moderately Challenge
Total Weighted Mean	3.27	Great Challenge

As revealed in Table 2, the procurement system involves several methods, decision-making processes, and factors that contribute to delays. Among the procurement methods, the company most commonly get sources from the same supplier

(mean = 3.62), uses the tendering process (mean = 3.48), requests quotations from suppliers (mean = 3.33), and less frequently changes suppliers for different projects (mean = 2.56).

Decisions on procurement confirmation are usually made by various departments, with the procurement department being slightly more involved (mean = 3.47), followed closely by top management (mean = 3.46), the accounts department (mean = 3.24), and the project department (mean = 3.16).

In terms of sourcing materials for projects, the company often sources from local suppliers (mean = 3.30), from both local and foreign suppliers (mean = 3.24), and from foreign suppliers (mean = 3.16).

The causes for procurement delays include poor pricing and payment term setting (mean = 3.46), inefficient negotiation of contracts (mean = 3.46), incomplete or wrong technical specifications (mean = 3.32), poor overall planning (mean = 3.20), inefficiency of the procurement team (mean = 3.16), and slow approval of procurement requests (mean = 3.13).

Regarding criteria adopted for the procurement process, technical evaluation is considered the most important (mean = 3.53), followed by the review of related documents (mean = 3.25), identification of valuable offers (mean = 3.21), financial assessment (mean = 3.14), and opening of the tendering bid (mean = 3.10). The total weighted mean of 3.27 suggests that the respondents were greatly challenged on the various aspects of the procurement system.

B. Currency Costing

Table 3

Mean of responses on logistics delay

The reasons why a project to exceed the budget	WM	Interpretation
1. Design change can lead to over budget	3.46	Great Challenge
2. Poor design development can lead to over budget	3.19	Moderately Challenge
3. Insufficient information can lead to over budget	3.20	Moderately Challenge
4. Poor project management can lead to over budget	3.13	Moderately Challenge
5. Poor site conditions can lead to over budget	3.44	Great Challenge
6. Time limits can lead to over budget	3.21	Moderately Challenge
7. Occurrence of accidents at site can lead to over budget	3.16	Moderately Challenge
8. Problems with equipment and machineries can lead to over budget	3.18	Moderately Challenge
The external issues that lead to over pricing of a project		
9. Global financial crisis can lead to over pricing of a project	3.19	Moderately Challenge
10. Price fluctuations can lead to over pricing of a project	3.46	Great Challenge
11. Money exchange rate can lead to over pricing of a project	3.23	Moderately Challenge
12. Government regulations can lead to over pricing of a project	3.45	Great Challenge
13. Inefficient procurement team can lead to over pricing of a project	3.23	Moderately Challenge
14. Logistics issues can lead to over pricing of a project	3.41	Great Challenge
The main determinants of a project's costing.		
15. Location influences the cost	3.19	Moderately Challenge
16. Specifications influence the cost	3.26	Great Challenge
17. Tax structure influence the cost	3.42	Great Challenge
18. Timescale influence the cost	3.35	Great Challenge
19. Procurement forms influence the cost	3.29	Great Challenge
20. Requirements to build a new structure or simply refurbish influence the cost	3.42	Great Challenge
Total Weighted Mean	3.29	Great Challenge

As revealed in Table 3, currency costing in projects can be affected by several factors that lead to exceeding the allocated budget. The primary reasons include design changes (mean = 3.46), poor site conditions (mean = 3.44), time limits (mean = 3.21), insufficient information (mean = 3.20), poor design development (mean = 3.19), problems with equipment and machinery (mean = 3.18), occurrence of accidents at the site (mean = 3.16), and poor project management (mean = 3.13).

External issues also play a significant role in overpricing a project. Price fluctuations are a major factor (mean = 3.46), followed closely by government regulations (mean = 3.45), logistics issues (mean = 3.41), money exchange rates (mean = 3.23), and inefficient procurement teams (mean = 3.23). Additionally, global financial crises contribute to the overpricing of projects (mean = 3.19).

The main determinants of a project's costing include tax structure (mean = 3.42), requirements to build a new structure or refurbish (mean = 3.42), specifications (mean = 3.26), procurement forms (mean = 3.29), timescale (mean = 3.35), and location (mean = 3.19). The total weighted mean of 3.29 suggests that these factors collectively impact the overall costing of projects.

C. Logistics Delay

As revealed in Table 4, the logistics delay in project completion time in San Mateo, Isabela, is influenced by several factors. Personnel in the logistics field who assessed various characteristics and types of transportation, revealing that good communication skills are the most highly valued characteristic (mean = 3.69). This is followed by having sound experience in the field (mean = 3.45), knowledge in documentation (mean = 3.42), the ability to work as a team member (mean = 3.31), a diligent work attitude (mean = 3.16), and sound knowledge of the logistic system (mean = 3.15).

Regarding the types of transportation used mostly for local procurement, own collection is notably the most used (mean = 3.62). This is followed by inland transportation (mean = 3.42), courier services (mean = 3.18), and air freight (mean = 2.34)

For the on-time delivery of local procurement, shipment transportation is seen as the most reliable (mean = 3.54), followed by courier transportation (mean = 3.27), air freight transportation (mean = 3.24), and inland transportation (mean = 3.19).

In terms of the efficiency of local procurement, courier transportation is rated the highest (mean = 3.50), followed by inland transportation (mean = 3.49), shipment transportation (mean = 3.18), and air freight transportation (mean = 3.15). The total weighted mean of 3.29 suggests that the respondents were greatly challenged in the delay of project completion time in San Mateo, Isabela in terms of logistics delay.

D. Project Management

Table 4 provides insights into the qualifications, criteria, and management methodologies deemed essential for effective project management. According to the responses on Qualifications of a Project Manager, respondents agree that a local candidate (mean = 3.43) and someone with a management degree (mean = 3.34) are highly qualified for the role. They also value candidates with finance (mean = 3.23) and engineering degrees (mean = 3.19), along with the qualifications of a foreigner (mean = 3.05).

Criteria of a Project Manager, effective implementation (mean = 3.46), cost control (mean = 3.45), decision making (mean = 3.42), and creating realistic schedules (mean = 3.43) are crucial criteria for project managers. Additional important

attributes include taking responsibility (mean = 3.39), effective management (mean = 3.39), good communication skills (mean = 3.33), engagement of the right team (mean = 3.38), and effective planning (mean = 3.29).

Table 4
Mean of responses on project management

The important qualification of a project manager		
	WM	Interpretation
1. A local candidate would be more qualified	3.43	Great Challenge
2. A foreigner would be more qualified	3.05	Moderately Challenge
3. Someone with a management degree	3.34	Great Challenge
4. Someone with an engineering degree would be more qualified	3.19	Moderately Challenge
5. Someone with a finance degree would be more qualified	3.23	Moderately Challenge
The criteria of a project manager		
6. Effective planning is important criteria	3.29	Great Challenge
7. Effective execution is important criteria	3.18	Moderately Challenge
8. Effective initiative is important criteria	3.16	Moderately Challenge
9. Effective implementation is important criteria	3.46	Great Challenge
10. Effective management is important criteria	3.39	Great Challenge
11. Effective decision making is important criteria	3.42	Great Challenge
12. Effective cost control is important criteria	3.45	Great Challenge
13. Good experience is important criteria	3.25	Great Challenge
14. Taking responsibility is important criteria	3.39	Great Challenge
15. High level of confidence is important criteria	3.28	Great Challenge
16. Good communication skill is important criteria	3.33	Great Challenge
17. Good negotiation skill is important criteria	3.29	Great Challenge
18. Effective risk handling is important criteria	3.20	Moderately Challenge
The management methodology required for a project manager		
19. Engagement of the right team is an important management method	3.38	Great Challenge
20. Doing proper documentation is an important management method	3.15	Moderately Challenge
21. Creating a realistic schedule is an important management method	3.43	Great Challenge
22. Providing regular updates is an important management method	3.28	Great Challenge
23. Ability to solve problems is an important management method	3.45	Great Challenge
24. Doing brainstorming is an important management method	3.29	Great Challenge
Total Weighted Mean	3.30	Great Challenge

For management methodologies, respondents also emphasize the importance of problem-solving abilities (mean = 3.45), regular updates (mean = 3.28), and effective negotiation skills (mean = 3.29) as critical management methodologies for project managers. Proper documentation (mean = 3.15) and brainstorming (mean = 3.29) are also recognized as important practices.

The total weighted mean of 3.30 indicates general agreement among respondents regarding these qualifications, criteria, and management methodologies essential for effective project management.

E. Causes of Delay

Table 5 presents a detailed assessment of the factors contributing to delays in project completion, based on responses gathered:

Respondents highlighted several significant causes of project delays. Foremost among these were delays in payments (mean = 3.49), attributed to issues with financial transactions impacting project timelines. Similarly, the capability of staff (mean = 3.49) and the timely decision-making process (mean = 3.49) were identified as critical factors affecting project progress. Issues related to risk allocation (mean = 3.46) and poor supervision (mean = 3.44) also emerged prominently,

Table 5
Delay in completion

The causes of the delay in completion of projects	WM	Interpretation
Confusions are the cause of delay in completing projects	3.26	Great Challenge
Improper feasibility is the cause of delay in completing projects	3.47	Great Challenge
Improper bidding is the cause of delay in completing projects	3.19	Moderately Challenge
Delay in payments is the cause of delay in completing projects	3.49	Great Challenge
Client's financial issue is the cause of delay in completing projects	3.37	Great Challenge
Slow response from clients is the cause of delay in completing projects	3.24	Moderately Challenge
Incapable staffs are the cause of delay in completing projects	3.49	Great Challenge
Poor leadership is the cause of delay in completing projects	3.19	Moderately Challenge
Lack of timely decision is the cause of delay in completing projects	3.49	Great Challenge
Large number of participants are the cause of delay in completing projects	3.28	Great Challenge
Poor project planning is the cause of delay in completing projects	3.40	Great Challenge
Poor supervisions are the cause of delay in completing projects	3.44	Great Challenge
Bad risk allocation is the cause of delay in completing projects	3.46	Great Challenge
Total Weighted Mean	3.37	Great Challenge

underscoring their impact on project delays.

Additionally, challenges such as improper feasibility studies (mean = 3.47), inadequate project planning (mean = 3.40), and client-related issues including financial constraints (mean = 3.37) and slow responsiveness (mean = 3.24) were cited as contributing factors. The presence of confusion (mean = 3.26), a large number of project participants (mean = 3.28), and deficiencies in bidding processes (mean = 3.19) further compounded delays. Poor leadership (mean = 3.19) is also recognized as a significant obstacle affecting project timelines.

The total weighted mean of 3.37 reflects a general consensus among respondents regarding the nature of challenges leading to delays in project completion.

Part 3. Proposed Measures to Improve Timely Completion of Construction Projects.

1. *For Procurement System.* Diversify supplier relationships beyond reliance on a single source and periodically evaluate supplier performance. Enhancing accuracy in technical specifications and overall procurement planning will mitigate delays caused by incomplete information. Streamlining procurement confirmation processes and fostering cross-departmental collaboration can expedite decision-making. Moreover, prioritizing effective negotiation and ensuring prompt approval of procurement requests will optimize procurement timelines and achieve better contract terms.
2. *For Currency Costing.* Enhancing project planning and design stability. Implement robust change management processes to minimize design changes and improving initial design development. Additionally, conducting comprehensive feasibility studies early in the project lifecycle can address issues stemming from insufficient information. Strengthening project management practices is also vital, focusing on effective oversight to control costs related to poor site conditions, time constraints, accidents, and equipment issues. Monitoring and adapting to external factors such as global financial crises, currency fluctuations, government regulations, and logistics challenges are essential to mitigate overpricing risks.
3. *For Logistics Delays.* Enhancing personnel skills and knowledge, optimizing transportation methods for

reliability, streamlining procurement efficiency, and implementing a robust monitoring and improvement framework.

4. *For Project Management.* focus on enhancing the qualifications and skill development of project managers to encompass a diverse range of expertise, including management, engineering, and finance. Emphasizing key criteria such as effective planning, execution, initiative, implementation, and cost control will be crucial in shaping managerial effectiveness. Additionally, strengthening management methodologies by promoting team engagement, comprehensive documentation, realistic scheduling, regular updates, problem-solving capabilities, and collaborative brainstorming sessions can foster a proactive and adaptable approach to project leadership.
5. *For Causes of Delay.* Ensuring prompt payment management and proactive client engagement for addressing financial and client-related delays. Effective project leadership, timely decision-making, optimized team coordination, and strengthened project planning and supervision will preemptively address operational challenges. Implementing strong risk management strategies is essential to anticipate and manage potential disruptions effectively.

4. Discussion

This research aimed to identify the challenges encountered by private construction project managers in completion time in San Mateo, Isabela and proposed recommendations for improving project completion time.

Part 1. Profile of the Respondents

The respondents were predominantly males. The age distribution was varied, with the majority between 36 and 50 years old. All respondents were Filipinos. The highest education attained by most is a Bachelor's degree. Companies surveyed had varying years of operation, with a majority operating for more than 10 years. Most respondents held managerial roles in their companies. Many have been with their company for more than 3 years. The majority of companies have fewer than 50 employees. Average annual gross revenue varied across different brackets. Projects under the Design &

Build option included office building, residential houses, hotels, commercial, and public roads and highways

Part 2. Main Challenges Faced by Construction Project Managers in San Mateo

The majority of respondents in San Mateo, Isabela, face challenges impacting project completion times. These include issues with the procurement system, where inefficiencies or delays in acquiring necessary materials or services can prolong project timelines. Currency costing, emerges as another critical concern, with fluctuations affecting project budgets and financial planning. Logistics delays, often caused by transportation and supply chain interruptions that hinder timely project progress. Project management challenges, encompassing coordination, resource allocation, and risk mitigation strategies. And delay in completion, which is caused by confusions, improper feasibility, improper bidding and others.

Bond (2022) stated that with the growing number of international development projects not meeting the triple constraint requirements every year, organizational leaders exceed their budgets and increase schedule delays. Some project managers lack strategies to minimize the negative impact of these constraints, resulting in projects that exceed their budgets and have more delays. Grounded in the theory of constraints the researcher explored strategies project managers use to reduce the negative impact of the triple constraints of cost, schedule, and scope on international development projects. The participants were five project managers from five different global development companies. Data sources included semi structured interviews with participants and research articles from the Project Management Institute knowledge database. The collected data were analyzed using a five-step thematic analysis process. Three themes emerged (a) scope management, (b) stakeholder management, and (c) project management planning yielded six strategies for managing international development projects.

Zakaria, et. al., (2020) stated that regardless of the country, context procurements play a pivotal role in project management. The Philippine government's concentrated focus on enhancing the construction sector's growth is also contingent upon facilitation of good procurements system, in all aspects. Poor management of this element may lead to poor or non-completion of construction projects.

Yildiz et. al (2014) stated that currency costing has been found to be a significant success factor for projects, importantly in terms of cost breakdown and progressive cost monitoring. Cost management is the fourth pillar of the Project Management Body of Knowledge areas, with activities pertaining to (i) planning for the cost, (ii) estimating the costs, (iii) determining the budget and (iv) controlling the costs. Respondents in Manila indicated their concentration of cost management, an issue which can lead to severe loss, if not managed accordingly.

According to Seng (2019) the concept of logistics delivery is an important component within a project perspective, especially a construction project as it is an essential component of the supply chain network. The result implied that the participating respondents in the city of Manila believe on the value of

logistics delivery in facilitating project management activities. A 1 percent concentration on logistics delivery helps to escalate success completion time by 14.3 percent, thus leading to on time, scope and on schedule completion of construction projects.

Opoku (2022) suggested that governments should play a more active role in partnership with industry stakeholders and that the social and economic dimensions of sustainability deserve more attention. The value of this study is to provide construction industry stakeholder an insight into the drivers and challenges of Sustainable Procurement and how to turn SP challenges into opportunities by adopting initiatives that consider the environmental, social, and economic impact of all procurement decisions. It also highlights the important role of the construction industry towards the realisation of the Sustainable Development Goals, particularly the significance of SP practices in the construction industry to the achievement of SDG.

Part 3. Proposed Measures to Improve Timely Completion of Construction Projects

Lock (2014) emphasized that the success of contractors and project managers hinges on achieving three primary objectives: completing the project within the approved cost budget, meeting the project deadline, and delivering satisfactory performance that aligns with specifications and intended benefits. To effectively accomplish these goals, several critical factors come into play. These include establishing a clear project definition and a robust business case from the outset, selecting an appropriate project strategy, and securing strong support from senior management throughout the project lifecycle. Adequate financial resources and other essential inputs, along with stringent control over project changes, are also crucial. Technical competence, fostering a culture of quality within the organization, and maintaining a suitable organizational structure are essential prerequisites. Moreover, prioritizing health and safety for all involved, ensuring effective project communication, and cultivating a motivated workforce are integral to project success. Lastly, the swift and equitable resolution of conflicts as they arise further bolsters the project's overall efficiency and effectiveness. These measures collectively enhance the likelihood of timely project completion and successful outcomes, aligning with established benchmarks of project management excellence.

Bond (2022) recommended that project managers are to manage the project scope properly, communicate with key stakeholders, and adequately plan the project and its transition. Implications for positive social change include improving project management industry practices, adapting to cultural differences, increasing business profitability, and creating a safer work environment.

Ullah (2023) suggested to the policyholders, practitioners and academia to make a balance between cost and time so that the quality of the project would be ensured.

5. Conclusions

1. The surveyed respondents were predominantly male Filipinos, primarily aged between 36 and 50 years old, with

the majority holding Bachelor's degrees. The companies represented varied years of operation, with most established for more than 10 years and employing fewer than 50 people. Many respondents held managerial position and had been with their company for over 3 years.

2. The respondents agree that they are greatly challenged in terms of procurement system, currency costing, logistics delay, project management and delay in completion.
3. Proposed measures to improve timely completion of construction projects encompass several strategic initiatives across key areas. Firstly, for the procurement system, efforts include diversifying supplier relationships, enhancing technical specifications, and improving procurement planning to streamline processes and expedite decision-making. Secondly, addressing currency costing that involves enhancing project planning stability, implementing robust change management, and conducting comprehensive feasibility studies to mitigate risks from external factors like currency fluctuations. Thirdly, mitigating logistics delays focusing on optimizing transportation methods, improving procurement efficiency, and enhancing personnel skills. Fourthly, enhancing project management entails developing comprehensive skill sets for project managers, emphasizing effective planning and execution, and promoting collaborative team engagement and problem-solving. Lastly, addressing delays in project completion involves proactive payment management, client engagement, and robust risk management strategies to preemptively manage operational challenges and ensure timely project delivery.

6. Recommendations

1. Project managers of San Mateo, Isabela should aim for increased levels of completion time in construction projects.
2. Construction project managers in San Mateo, Isabela face several key challenges that require targeted strategies for improvement. Regarding the procurement system, it is crucial to diversify supplier relationships beyond sole dependencies, enhance technical specifications for clarity, and streamline confirmation processes to expedite procurement decisions. Addressing currency costing challenges involves stabilizing project planning through robust change management and conducting thorough feasibility studies early on to mitigate risks from currency fluctuations. Logistics delays can be minimized by optimizing transportation methods, improving procurement efficiency, and investing in enhancing personnel skills and knowledge. Effective project management demands developing comprehensive skill sets for managers, emphasizing rigorous planning and execution, fostering proactive team engagement, and adeptly managing unforeseen challenges. Lastly, addressing delays in project completion requires implementing strong payment management practices, maintaining proactive client engagement, and implementing robust risk management strategies to preemptively manage and mitigate potential delays throughout the project lifecycle.
3. Future researchers are encouraged to conduct additional

studies to investigate unexplored aspects that were not covered in this particular study.

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