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THE ROLE OF PROJECT MANAGERS IN IMPROVING CONSTRUCTION PROJECT EFFICIENCY

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Abstract

The construction industry faces various efficiency issues in project implementation. Construction projects often experience delays, cost overruns, and sub-optimal quality. Researchers observed that the role of project managers is crucial in creating work efficiency. Project managers are responsible for coordination, communication, decision-making, and risk management during the construction process. This study aims to analyze the contribution of project managers' roles to increasing construction project efficiency. This study uses a deductive qualitative approach that relies on literature reviews and thematic analysis from various academic sources. Researchers found that high managerial skills affect the effectiveness of resource allocation and project time. Researchers also found that open communication encourages harmonious and productive teamwork. Researchers noted that data-based decisions accelerate the problem-solving process and prevent project delays. Researchers saw that systematic risk management can reduce the impact of uncertainty and increase project stability. Researchers observed that organizational support strengthens the position of project managers in strategic decision-making. Researchers concluded that the role of project managers significantly affects all dimensions of construction project efficiency. Researchers suggest that construction companies improve project manager competencies through integrated training and supporting information systems. Researchers hope that the results of this study will contribute to efficient and sustainable project management practices. Researchers recommend a holistic approach in developing project management in the construction sector.

Keywords: ***Construction Project Efficiency, Project Manager, Managerial Skills, Strategic Decision Making***

INTRODUCTION

The global construction industry is facing a problem of low efficiency in project delivery. Researchers note that delays, cost overruns, and declining project quality are the main symptoms. The main triggering factor is weak project management that is carried out partially. The role of the project manager is crucial in managing resources and processes to achieve optimal efficiency. Kerzner (2023) stated that project managers must have systemic competence in control. Turner (2024) added that project management must focus on a results-based and time-based approach. Therefore, focusing on strengthening the role of the project manager is a relevant strategy. This study starts from the need to improve project efficiency by improving the quality of project management. The phenomenon of delays and budget overruns has become a pattern in various construction projects. Opoku et al. (2024) stated that project managers have a major contribution to achieving the Sustainable Development Goals through project efficiency. Almashhour et al. (2024) emphasized the role of implicit knowledge and emotional intelligence in enhancing project manager creativity. When efficiency fails to be achieved, the risk to the company's reputation and client satisfaction increases. Neglecting the strategic role of project managers in the decision-making process worsens the condition of the project. Therefore, a comprehensive approach to the managerial factors that play a role in the project is needed. This study aims to understand more deeply the relationship between managerial variables and project efficiency. This background illustrates how urgent it is for solutions based on project management professionalism.

Project managers not only manage schedules but also unite various stakeholders in one vision. Arabpour & Silvius (2023) describe the role of managers in managing the supply chain and project communication. Fonseca et al. (2024) added that digitalization such as BIM and Lean Construction increases the efficiency of project management. Unfortunately, not all construction companies have optimally utilized the potential of project managers. Inequality in managerial quality triggers inconsistency in project output. Efficiency requires systematic coordination that can only be achieved by strengthening the function of project managers. Therefore, the integration of technology and leadership approaches is the basis of this research. This research explores the relationship between elements that mutually influence project efficiency. The main problem in this study is the suboptimal utilization of the role of the project manager. Kerzner (2023) emphasizes the importance of communication as the key to project team harmonization. Turner (2024) highlights the importance of risk mitigation strategies to maintain project continuity. Project efficiency is not only a technical matter, but also related to the interpersonal capabilities of the project manager. Therefore, measuring efficiency needs to look at the managerial aspect from the perspective of interaction and coordination. This study attempts to explain how project manager capabilities affect construction project outcomes. The focus of the research is directed at exploring the actual contribution of managerial practices in the project. This study considers the interaction between managerial variables as an indicator of efficiency. The formulation of the problem is formulated to direct the goal of strengthening the role of the project manager.

This study aims to analyze the contribution of project managers in improving construction efficiency. According to Opoku et al. (2024), project managers who understand client needs tend to produce more efficient projects. Almashhour et al. (2024) also emphasized that creative project managers contribute to the overall success of the project. The long-term objective of this study is to strengthen the performance-based project management system. In addition, this study also wants to provide practical recommendations for construction actors. Efficiency is understood as a combination of technical capabilities and managerial abilities. Therefore, this study will also assess the institutional context and organizational support. The results of this study are expected to provide a roadmap for human resource development in the construction sector. The purpose of this study will be an evaluative framework in determining project efficiency strategies. The uniqueness of this study lies in the integrative approach that examines all aspects of project management. Fonseca et al. (2024) emphasized the importance of BIM integration throughout the project cycle for efficiency. Kerzner (2023) also stated that an effective project management system requires a systemic and integrated approach. The majority of previous studies only highlight technical aspects such as cost and schedule. Therefore, a holistic approach involving soft skills and organizational structure is significant. This study explores the relationship between organizational support and project success. The study also dissects the contribution of communication, decision making, and leadership.

Therefore, the novelty of this study fills a gap in the literature that is still partial. The results of this study will broaden the understanding of managerial-based project efficiency strategies. The background of this study reflects the urgency of the role of project managers in the context of national development. Kassa et al. (2023) stated that superior project managers have technical and leadership competencies. Wang & Chen (2023) showed that BIM integration strengthens efficiency in project implementation. Therefore, efficiency is not only based on technology, but must be balanced with visionary leadership. Construction companies in Indonesia still experience gaps in terms of developing project manager competencies. This study is a scientific contribution to strengthening the role of project managers in the strategic sector. The focus of the research is directed at creating an adaptive and collaborative project management system. This background underlines the need for a proactive and value-based management approach. Finally, this background emphasizes the urgency of research on the strategic role of project managers.

METHOD

This study uses a qualitative approach that focuses on understanding the role of project managers in construction project efficiency. This approach was chosen because it allows for in-depth exploration of complex social and organizational phenomena. Kerzner (2023) stated that a qualitative approach is able to capture the non-technical dimensions of project management. Turner (2024) supports this method because it can describe the managerial context and process in depth. This research was conducted through literature analysis and interpretation of theories based on relevant empirical cases. Data were collected through a review of journals, books, and actual construction project documents. The focus of the analysis is directed at the interaction between managerial factors such as communication, risk, and decision making. The deductive approach helps researchers test the consistency of theory with the reality of project management practices.

Figure 1. Pyramid in Research Methodology

The data collection technique in this study was carried out through documentation studies and systematic literature reviews. Kerzner (2023) explained that project documentation can reveal managerial dynamics in a structured manner. Turner (2024) stated that academic literature provides a strong theoretical basis for qualitative interpretation. Researchers select relevant sources based on their credibility and contribution to project management. The main focus is on sources that discuss the relationship between managerial variables and project outcomes. This technique was chosen because it is able to provide depth in data interpretation. In addition, this approach supports conceptual validity in analyzing the role of project managers. This study provides a theoretical framework for understanding the managerial process in the construction sector. Therefore, this method strengthens the quality of the argumentation of the research results.

Data analysis was conducted descriptively-interpretively based on managerial categories that were established from the start. Kerzner (2023) emphasized the importance of classifying data based on dimensions such as communication and decision-making. Turner (2024) added that categorical analysis can reveal patterns of relationships between variables. Researchers mapped data based on themes such as communication effectiveness, response to risk, and stakeholder coordination. Data from various sources were interpreted using the perspective of project management theory. The analysis steps were carried out systematically to maintain consistency of meaning. Validity was strengthened through triangulation of mutually supporting library data sources. This analysis produced a narrative that describes the reality of the role of a project manager. Therefore, this analysis method is very appropriate for the purpose of deductive qualitative research.

This study uses theory as an initial framework to guide the process of data analysis and interpretation. Kerzner (2023) shows that deduction from project management theory helps explain causal variables in the context of efficiency. Turner (2024) proposes that theory is used as a tool to test the suitability between ideal models and organizational reality. The deduction process begins with theoretical assumptions about the functions of project managers. Next, relevant empirical data are compared to the theoretical framework. This process allows the identification of gaps or harmonies between practice and theory. This study does not intend to generalize, but to develop contextual understanding. Therefore, the use of a deductive approach strengthens the depth of interpretation and theoretical contribution. This methodology provides an adequate foundation for systematically compiling results and discussions.

RESULTS AND DISCUSSION

Research has found that strong managerial skills contribute directly to construction project efficiency. Project managers who are able to manage time, budget, and labor have been shown to reduce resource waste. Kerzner (2023) stated that system-based management creates stability in project schedules. Kassa et al. (2023) explained that the combination of technical and leadership skills determines the performance of project managers. Project managers who have structured planning can minimize the risk of inefficiency. This study shows that the ability to adapt to field dynamics

is a determinant of efficiency. Therefore, managerial skills should be the focus of professional training. These findings indicate a strong relationship between project efficiency and managerial capabilities. Effective communication between project managers and their teams has been shown to improve work cohesion. Project managers who are able to clearly explain goals and division of tasks can prevent conflict and duplication of work. Elkbuli et al. (2024) stated that strong communication improves collaboration and risk management. Villena Manzanares et al. (2023) added that team trust increases when communication is open and ongoing. This study observed that projects with clear communication channels are completed faster. Good interpersonal interactions strengthen the clarity of roles and work expectations. Project managers act as information liaisons between stakeholders. Therefore, communication is a core aspect in maintaining the efficiency of construction projects. Fast and data-driven decisions have a significant impact on project efficiency. Project managers who are able to process field information accurately can respond to emergencies more efficiently. Arfenia Nita et al. (2023) stated that data-driven decisions accelerate the achievement of energy efficiency. Hu et al. (2023) added that decision-making in large infrastructure projects requires reliable information technology. This study shows that delayed projects are often caused by slow decision-making. This delay creates a domino effect on cost and quality aspects. Therefore, decision-making is a strategic mechanism in project control. This finding confirms that project efficiency requires accurate and timely decisions.

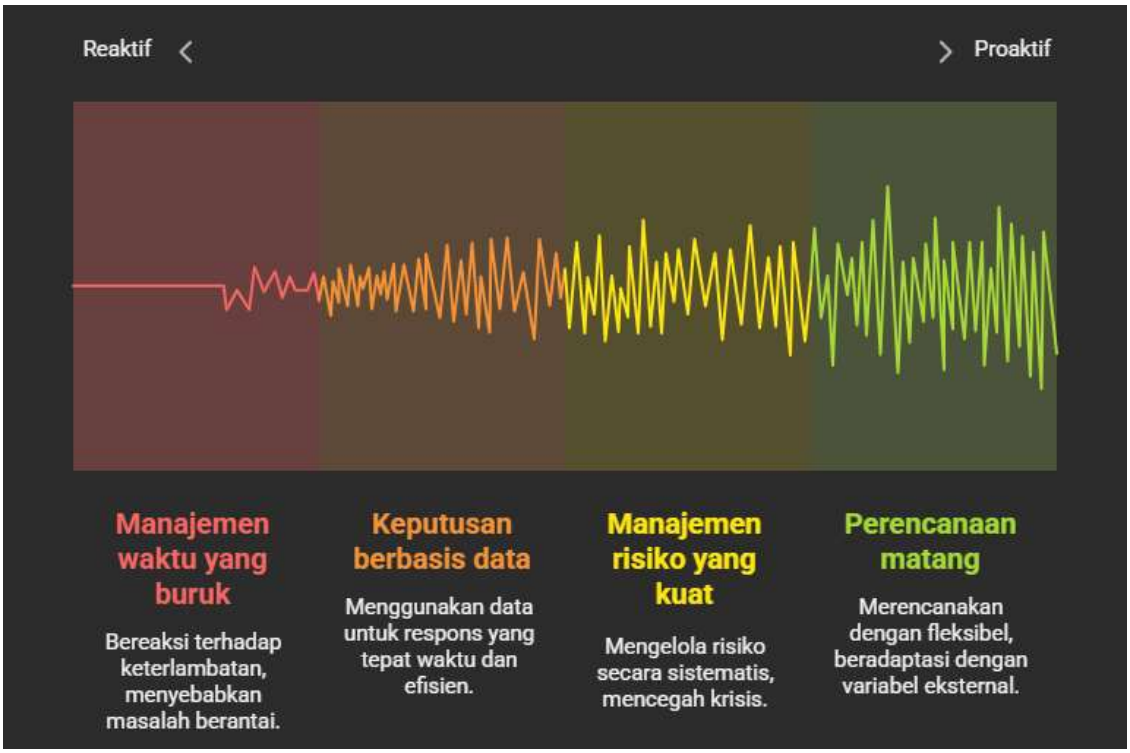

Figure 2. Project manager skills spectrum: From reactive to proactive approaches

Project efficiency is determined by the manager's ability to manage risks systematically. Risks that are left unidentified often cause cost and time crises. Elkrghli & Almansour (2024) stated that technical and financial risks are the main obstacles in construction. Khodabakhshian et al. (2023) highlighted the role of AI technology in predicting and managing risks more accurately. The study found that project managers who apply a predictive approach to risk show a higher level of efficiency. Data-based risk mitigation strategies have been shown to reduce potential losses. Therefore, risk analysis skills are a mandatory competency for project managers. These findings reinforce the urgency of integrating risk management into the project manager's work system. Project efficiency depends not only on the project manager but also on the support of the organizational structure. Organizations that provide managers with flexibility in decision-making tend to produce projects that are on time and on budget. Opoku et al. (2024) explained that institutional support drives the success of SDG 11 through project efficiency. Almashhour et al. (2024) emphasized that a work environment that supports creativity strengthens the competence of project managers. This study shows that project managers in

hierarchical organizations tend to face execution constraints. Slow decisions and bureaucracy slow down the response to project dynamics. Therefore, an adaptive organizational structure is key to efficiency. The study confirms the importance of the relationship between structural support and project success. The use of technologies such as BIM and BI accelerates the project management process. Technology provides accurate visualization, simulation, and prediction for decision making. Fonseca et al. (2024) emphasized that the integration of BIM throughout the project cycle accelerates efficiency. Golestanizadeh et al. (2023) added that Business Intelligence systems support real-time analysis of project data. This study observed that projects that integrate technology experience reduced costs and time. Technology helps managers monitor progress and detect deviations early. Therefore, technology investment is an important strategy in modern projects. This study highlights the potential of technology in improving operational efficiency.

Collaboration between project managers and stakeholders improves the smoothness of project implementation. Project managers who build synergistic relationships with clients, contractors, and regulators are able to reduce conflict. Kerzner (2023) stated that multi-actor coordination is the key to the success of complex projects. Arabpour & Silvius (2023) emphasized the importance of cross-supply chain communication in supporting project sustainability. This study found that early stakeholder involvement accelerated the approval process and resource allocation. Trust between parties also strengthened execution efficiency. Therefore, project managers must act as facilitators of collaboration. These findings highlight the importance of synergy between parties in construction projects. Emotional competence has been shown to play an important role in construction project leadership. Project managers who have high empathy and emotional intelligence are able to create a harmonious work environment. Almashhour et al. (2024) stated that emotional intelligence increases creativity and managerial efficiency. Villena Manzanares et al. (2023) added that a psychologically safe work environment encourages team productivity. This study found that the manager's ability to read team emotions contributes to task efficiency. Controlled emotions reduce the potential for conflict and increase work morale. Therefore, emotional competence needs to be developed in project leadership training. This finding confirms that efficiency is not only a matter of technical, but also interpersonal skills.

Thorough and flexible project planning strengthens operational efficiency in the field. Project managers who plan by considering external variables tend to be more adaptive. Turner (2024) stated that proactive planning is able to anticipate construction dynamics. Wang & Chen (2023) explained that the integration of planning with BIM accelerates project execution. This study found that projects that started without detailed planning experienced significant revisions midway. These revisions resulted in wasted time, money, and team energy. Therefore, efficiency is highly dependent on the clarity and flexibility of the initial planning. These findings show the importance of a structured and sustainable planning strategy in every project.Transformational leadership accelerates team adaptation to changes in construction projects. Visionary project managers are able to generate work enthusiasm and loyalty among team members. Kerzner (2023) explains that vision-based leadership creates a progressive organizational culture. Opoku et al. (2024) state that inclusive leadership strengthens stakeholder participation. This study shows that managers who are able to inspire encourage teams to work more efficiently. In addition, this leadership style reduces resistance to new policies. Therefore, a leadership approach that builds team values and commitment is very important. This finding shows that efficiency is also born from a work culture led by an inspirational figure.

Project manager creativity helps to find innovative solutions to complex project constraints. Project managers who are able to think divergently can accelerate the resolution of technical and non-technical problems. Almashhour et al. (2024) emphasized that creativity is strengthened through implicit knowledge and field experience. Golestanizadeh et al. (2023) stated that information systems support the exploration of new solutions in project management. This study noted that stagnant projects can be recovered by creative and risk-taking managers. Innovation is an important tool to improve efficiency in resource constraints. Therefore, companies need to encourage an innovative culture in project teams. These findings strengthen the relationship between managerial creativity and project efficiency. A comprehensive project monitoring and evaluation system supports increased teamwork efficiency. Project managers who actively monitor team progress and performance are able to avoid deviations from schedule. Turner (2024) explains that periodic evaluations allow for process improvements before losses occur. Wang & Chen (2023) add that technology-based systems support real-time project tracking. This study shows that delays often stem from a lack of effective control mechanisms. When monitoring is optimal, the risk of waste can be reduced. Therefore, project efficiency requires a consistent and responsive control system. These findings imply the importance of digitalization in project control functions. Project managers who manage time effectively are able to complete projects on time. Delays in decision making or rescheduling can have a domino effect on all aspects of the project.

Hu et al. (2023) showed that decision-making delays are a major bottleneck in large projects. Khahro et al. (2023) highlighted that lack of technical competence prolongs the decision process in the early stages of a project. This study found that project managers with high time management skills produce more consistent output. Efficient time allocation prevents the accumulation of backlogs. Therefore, time management is a key skill in project efficiency. This finding reinforces the urgency of time management training at the operational level. Data is an important foundation in modern project management strategies. Project managers who use data as a basis for decision making tend to produce more accurate policies. Desgourdes & Ram (2024) stated that data analytics expands transparency and control in decision making. Golestanizadeh et al. (2023) emphasized that Business Intelligence helps map project performance trends in detail. This study found that data-driven projects have more stable efficiency indicators. Decisions based on intuition without data tend to increase the risk of errors. Therefore, data utilization must be part of the project manager's work system. These findings indicate that data-driven management significantly drives efficiency. An approach that integrates all managerial elements has been shown to significantly increase the efficiency of construction projects. The integration of communication, decision-making, risk, and technology creates an adaptive work system. Kerzner (2023) states that project management must rely on a systemic approach to achieve maximum results. Turner (2024) proposes the use of process-based management principles to unify all organizational functions. This study found that fragmentation in project management reduces efficiency and quality of results. In contrast, a holistic approach creates harmony between the components involved in the project. Therefore, project managers need to have a holistic view of all aspects of the project. This finding concludes that true efficiency comes from a comprehensive and integrated approach.

Conclusion

This study concludes that the role of the project manager greatly determines the level of efficiency of a construction project. Project managers who have managerial, emotional, and technological competencies are able to create an adaptive and productive work system. Kerzner (2023) stated that project success is influenced by mastery of a comprehensive management system. Opoku et al. (2024) added that project managers play a role in ensuring that projects are in line with the principles of sustainability and efficiency. The findings of the study indicate that aspects of communication, decision-making, risk management, and organizational support contribute to efficiency simultaneously. A holistic approach is the most relevant approach in unifying all managerial functions. Therefore, project efficiency cannot be achieved only by improving one aspect separately. The main conclusion of this study is that construction project efficiency requires a project manager who is able to synergize all elements in an integrated framework. This study recommends that construction companies actively develop the capacity of project managers through continuous and practice-based training. Kerzner (2023) emphasized the importance of systematic training for project managers in dealing with the dynamics of modern projects. Turner (2024) suggested the integration of technology learning and soft skills development in manager development programs. In addition, organizations need to provide digital monitoring and support systems such as BIM and BI that facilitate managerial processes. Project managers also need to be encouraged to build transformational leadership and creative thinking skills as solutions to field dynamics. Companies must create a work ecosystem that supports collaboration and fast decision-making. With this strategy, project efficiency can be significantly and sustainably increased. This recommendation is intended as a concrete step to strengthen the role of project managers in the success of modern construction projects

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