

Factors of IT Project Failure: A Literature Review

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ABSTRACT

This study aims to identify the key factors contributing to IT project failure. A literature review serves as the primary research method, with articles sourced from leading journal databases such as Scopus, IEEE Xplore, Google Scholar, and ProQuest using the keyword "IT project failure factors." The findings reveal that IT project failure is primarily caused by individual, organizational, and technical factors. Specific factors identified include a lack of project management skills, poor communication among team members, inadequate planning, and constraints related to budget and technology. Individual factors involve insufficient expertise and leadership, while organizational factors include weak support from management and unclear project objectives. Technical factors, such as outdated systems and integration issues, also play a significant role. This study emphasizes the need for a holistic approach in IT project management to minimize failure risks. Effective project planning, strong leadership, clear communication, and adequate resource allocation are crucial in ensuring success. By understanding these failure factors, organizations can implement better strategies to enhance project outcomes. Future research could explore specific mitigation strategies and best practices to address these challenges, providing valuable insights for IT professionals and project managers in improving project success rates.

Kata kunci: IT Project Failure, Failure Factors in IT Projects, Project Management Challenges

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INTRODUCTION

Information technology (IT) projects play a crucial role in supporting business operations, driving innovation, and improving organizational efficiency across sectors. As investment in IT projects increases, expectations for the success of these projects also increase. However, in reality, many IT projects still face various challenges that hinder the achievement of their goals. Research shows that IT projects often experience delays, cost overruns, or even complete failure to achieve the expected results. (Dr. Santoso Joseph Teguh & S.Kom, 2023)

In the rapidly developing digital era, information technology (IT) has become a key element in various aspects of life, including in the business, government, and education sectors. The development of IT not only functions as a supporting tool, but also as a driving factor for innovation and transformation in various sectors. The implementation of IT projects is expected to improve operational efficiency, accelerate business processes, and support more accurate and data-based decision making (Murtadho, MA 2024). However, the reality on the ground shows that many IT projects experience various challenges that lead



to failure. Some of the main factors that cause IT project failure include inadequate planning, changes in needs that are not well managed, and lack of communication and coordination between stakeholders. In addition, cost overruns, delays in project completion, and inconsistencies between the final results and the initial objectives are also obstacles that are often encountered (Indrayani, NLA 2022).

IT project failure can have a significant impact on an organization, including loss of investment, disruption to business operations, and decreased trust from users or customers. Therefore, an appropriate strategy is needed in managing IT projects, from the planning, execution, to evaluation stages. Approaches such as Agile and Scrum have been widely applied to increase flexibility and responsiveness to changes that occur during the project. In addition, the involvement of top management, training for project teams, and the use of technology that suits the needs of the organization are also determining factors for the success of IT implementation (Saputra, AMA, 2023). With a more structured and adaptive approach, organizations can minimize the risk of failure and maximize the benefits obtained from their IT investments. Overall, although IT projects have their own challenges, with careful planning, good risk management, and active involvement from all stakeholders, successful IT implementation can be achieved more easily. Thus, information technology can truly be a catalyst in increasing the competitiveness and effectiveness of organizations in this digital era (Setiawan, Z., et al. 2024).

IT project failures can have significant impacts on an organization, both financially, operationally, and reputationally. For example, a failed Enterprise Resource Planning (ERP) implementation can disrupt business operations, while a security system failure can threaten the integrity and confidentiality of company data. ERP itself is not just a technological artifact, but a system designed to integrate various processes in a company's internal value chain, so its failure can have a wide impact. (Katu, 2020) IT project failure can be caused by various factors, such as ineffective project management, lack of support from stakeholders, limited resources, and mismatch between business needs and the IT solutions implemented. These factors often contribute to the inability of the project to achieve its stated goals, both in terms of time, budget, and quality of expected results (Santoso, JT 2023). Various studies have been conducted to identify factors contributing to IT project failure, but there are still research gaps that need to be filled to understand the dynamics and complexities behind this phenomenon. For example, some studies highlight the importance of effective communication between the project team and stakeholders, while others emphasize the role of organizational culture in determining the success of IT project implementation. In addition, technical factors such as inappropriate technology selection and lack of technical skills in the team can also exacerbate the risk of failure (Raharjo, B. (2021).

In addition to internal factors, external influences such as regulatory changes, market dynamics, and rapid technological developments can also affect

the sustainability of IT projects. Therefore, a holistic and adaptive approach is needed in IT project management to reduce the possibility of failure. Further studies are needed to develop a model that can accommodate the various variables that play a role in the success or failure of IT projects, as well as more effective risk mitigation strategies (Tampubolon, MP 2020). Thus, a deeper understanding of the factors that cause IT project failure can help organizations better design and manage IT projects, thereby increasing their chances of success. Therefore, understanding the factors that cause IT project failure is very important so that organizations can develop effective mitigation strategies. Various studies have identified a number of factors that contribute to IT project failure. This study aims to examine the main factors that cause IT project failure through a literature review. By analyzing previous studies, it is hoped that this study can provide more comprehensive insights into the challenges faced in implementing IT projects and strategies that can be applied to minimize the risk of failure. The results of this study are expected to contribute to practitioners and academics in understanding and managing IT projects more effectively.

METHODOLOGY

The method used in this study is a literature review study or SLR. Literature Review Study is a research approach used to collect data sources that are relevant to a particular topic. The purpose of a literature study is to describe the core of a topic based on information obtained from various existing references.

Systematic Literature Reviews (SLRs) are powerful tools that go beyond academic summaries of a collection of papers. They can provide insight into the state of a field, uncover previously unknown relationships between disciplines, and point the way toward maturity of a field.(Cabrera et al., 2023).

RESULT AND DISCUSION

Table 1 below will display the author's name, research method, and research findings related to IT project failure factors. To facilitate understanding, the research results are presented in table 1.

Table 1.Research Article Analysis Results Table			
No	Title	Success Factors	Research Findings
1	It governance: a study of implementation, evolution, and critical success factors(Wong, 2022)	Top Management Support and Ownership	Top management support, commitment, trust and understanding of IT governance, including education to increase their insight into IT governance mechanisms.

2	Identification of Platforms and Success Factors in Information Technology Project Management(Mega Rizkia Riesna et al., 2023)	Human resources (HR)	Project success requires human resources who master IT, while an imbalance between human resources and technology capabilities can hinder project optimization.
3	Identification of Success Factors for Implementing Hospital Management Information Systems(Saputra, 2016)	System Quality	Ease of use, learning, response time, flexibility, security, and good interface performance increase system satisfaction and usage.
4	Critical Success Factors for IT Projects: A Case Study of Mobile Government(Syaputra et al., 2023)	Top Management Commitment	Support from top management, including financial and emotional, is essential for sustainability and conflict resolution within an organization.
5	Identification of Critical Success Factors in Adoption of Health IT Services from Older People's Perspective(Feroz et al., 2023)	Information Flow	Good information flow is positively related to user performance. Users who are satisfied with the information flow tend to complete tasks better.
6	International Project Management Programme(Ummah, 2019)	Project quality	The quality of the product or solution produced is an important factor in determining the success of the project.
7	Determinants and Success Factors of IT Outsourcing in the Public Sector(Gantman & Fedorowicz, 2020)	Cost Considerations	Public organizations choose outsourcing to reduce operational costs, given their budget constraints.
8	A Proposed Model for IT Project Success Factors(Allam & Akre, 2021)	Senior Leaders' Value Perceptions of IT Projects	The success of an IT project is influenced by how senior leaders perceive the project's value to the organization. If the project is perceived as valuable, it is more likely to be successful.
9	The pivotal factors of IT projects' success - Insights for the case of organizations from the Federation of Bosnia and Herzegovina(Bezdrob et al., 2020)	Control Project Cost	Ability to manage project costs well, especially in large organizations or those managing multiple projects in parallel, which more often than not keeps projects within budget.
10	IT projects success factors: a literature review(Bezdrob et al., 2020)	User Engagement	Active involvement of users in the project ensures that their needs are met and increases the chances of project success.
11	Critical success factors in implementing flexible IT infrastructure in the Malaysian construction	Readiness for Change	The ability of IT staff to adapt to change, including changes in their duties or the strategic direction of the organization.

	industry(Zainon et al., 2022)		
12	Artificial intelligence for decision making in the era of Big Data – evolution, challenges and research agenda(Duan et al., 2019)	Understanding Technology	It is important to understand the AI technology being used, including the types of tasks the technology can perform and its strengths and limitations.
13	Modeling and Analysis of Critical Success Factors for Implementing the IT-Based Supply-Chain Performance System(Michalski & Zaleski, 2024)	Interpretative Structural Model (ISM)	Using ISM to understand the relationships between identified success factors, as well as the interactions between those factors.
14	Modeling and Analysis of Critical Success Factors for Implementing the IT-Based Supply-Chain Performance System(Michalski & Zaleski, 2024)	Change Management	The ability to manage the changes brought about by new technologies will increase success.
15	Critical Success Factors in IT Project Management. Case study on IT Banking Front-end IT System Project in Serbia(Ilic, 2019)	Project Plan and Schedule	Detailed planning and proper scheduling to determine scope, resource allocation, and deadlines.
16	Critical Success Factors in Managing Projects Using IS/IT: Case Study for Projects in Indonesia During COVID-19 Pandemic(Wahbi et al., 2020)	Project Objective Stability	Stable project objectives are considered important to maintain focus and avoid major changes during project implementation.
17	Critical Success Factors of Information Technology Projects(John & Mauritsius, 2022)	Leadership	Effective leadership, including technical, relational, and charismatic skills, is critical to project success.
18	Digital Transformation in Public Organizations: IT Alignment-Related Success Factors(Jonathan et al., 2023)	Data Saturation	Data collection was stopped when no new themes emerged, ensuring representation of all relevant viewpoints.
19	Critical Success Factors in Information Technology Projects(John & Mauritsius, 2022)	Project Documentation	Complete and well-organized project documentation to facilitate future tracking, evaluation and sustainability of the project.
20	Success Factors in Management of IT Service Projects: Regression, Confirmatory Factor Analysis, and Structural Equation Models(Michalski & Zaleski, 2024)	Delivery Strategy	An effective delivery strategy to ensure that project deliverables meet objectives in terms of quality, time and cost.
21	Investigating Critical Success Factors for Effective Management of	Project Team (PT)	The competence, motivation, and collaboration of project team members

	IT Projects(Siddique et al., 2024)		are the most important elements in successful IT project management.
22	Critical success factors in information technology projects(Fayaz et al., 2017)	Leadership Qualities	Leadership qualities play an important role in gaining top management support.
23	Success factors in IT outsourcing – vendor's view(Santti, 2023)	Customer satisfaction	Customer satisfaction has a direct impact on success and the opportunity to extend a contract.
24	Success Factors of IT Projects: Undergraduate Students Perspective(Islam & Islam, 2020)	Group Collaboration	Teachers need to help form project groups to improve communication and understanding among group members.
25	The Critical Success Factors of Managing Insourced Chinese IT Teams in Crosscultural Environments(Sinclair & Jeong, 2022)	Project Development Methods	Selecting the right development method helps students complete projects well.
26	Success Factors in Sustainable Management of IT Service Projects: Exploratory Factor Analysis(Michalski & Zaleski, 2024)	Work Environment	Supportive work facilities, healthy organizational culture, and openness to collaboration.
27	Key Success Factors That Enable IT Service Providers to Achieve Organizational Performance: Evidence from Romania(Barbu et al., 2021)	Service and Process Innovation	Developing and enhancing the company's innovation potential can improve organizational performance. Focusing on innovation in services and processes is key to achieving excellence.
28	Evaluating E-learning Systems Success: An Empirical Study(Al-Fraihat et al., 2020)	Technology System Quality	Ease of use, ability to meet user needs, flexibility, integration between system components, and features required by users.
29	Factors Influencing the Success of E-Learning with the Utaut Model in the Ministry of Finance(Sancoko & Ashari, 2023)	Facility/ Means	Not proven to have an effect on e-learning usage behavior. In the pandemic era, adequate facilities/ means are already available and are not an obstacle for respondents, so perceptions of facilities do not affect usage behavior.
30	IT Outsourcing Success Factors In the Portuguese Public Sector: a research proposal(Paiva et al., 2022)	Quality of Partnership Relationships	Building strong partnerships between the public and private sectors to reduce the risk of losing control and dependence on IT service providers.

Source: Data Research

CONCLUSION

The success of an information technology (IT) project is influenced by various factors, including top management support, human resource competence, effective leadership, and project team collaboration. The quality of systems and technology, thorough planning, and appropriate management strategies play a role in maintaining the scope, resources, and time of project

implementation. Active user involvement, good change management, and adaptation to technological innovations increase the chances of project success. In addition, efficient cost management, innovation development, complete documentation, and a supportive work environment are important foundations for project sustainability. A holistic approach that includes resource management, strategy, and collaboration is needed for IT projects to achieve their goals effectively.

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