

Mapping Success and Failure Factors in Enterprise Resource Planning (ERP) Implementation: A Global Systematic Literature Review

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Abstract

This study examines the essential reasons that determine the success and failure of Enterprise Resource Planning (ERP) implementation within international organizations. From a systematic review of thirteen peer-review articles between 2022 and 2025, the study identifies eight essential success factors, such as top management support, training of end-users, alignment of business processes, and technological readiness, and eight failure factors that are significant, among which, a lack of leadership involvement, resistance by end-users, and inefficient reengineering of processes. Another essential finding pertains to symmetry between the factors, such that exclusion of success components tends to lead to failure. The study incorporates current theoretical models such as TAM, TOE, and the IS Success Model to arrive at a systematic view of ERP dynamics. The study enriches research and practice by suggesting a holistic framework to guide strategy development, risk mitigation, and ERP implementation success within diverse business contexts.

Keywords: Change management, ERP, failure factors, implementation success, organizational alignment

1. Introduction

ERP (Enterprise Resource Planning) software is becoming widely adopted by companies to consolidate key business functions, including operations, finance, supply chain, and human resources, into a single, integrated system for improved decision-making, increased efficiency, and greater data accuracy. [1] The software provides access to up-to-date, real-time information about the business and facilitates cross-departmental collaboration, which is so important in today's dynamic market environment.

While there are these advantages, many ERP implementation projects do not deliver the expected value. Internationally, ERP failure rates ranging from 40% to 70% have been cited from research [2], [3]. The failure was not only tied to technological complexity but instead was triggered by organizational, cultural, and even managerial shortcomings, such as inadequate training, poor planning, resistance to change, and misalignments between ERP software and business processes [4].

For improved ERP outcomes, various researchers have pointed to several CSFs that are essential to achieving the success of ERP implementation. These include top-level sponsorship, active engagement by end-users, good change management, good project scope, and business process reengineering [5], [6]. Conversely, failure factors are likely to emanate from ill-defined goals, communication breakdown, unrealistic expectations, and insufficiency of resources [4].

Even though there are numerous studies that have studied ERP success and failure, there is no worldwide synthesis that compares and diagrams the factors among different organizational contexts comprehensively and systematically. Therefore, this work aims to conduct a Systematic Literature Review (SLR) to synthesize and determine internationally the success and failure factors of ERP implementation. The results will likely assist practitioners and researchers in enhancing ERP implementation procedures among different regions and industries.

2. Related Work

This section provides a summary of past work on ERP systems to place the study in a broader context.

2.1. Enterprise Resource Planning (ERP)

ERP comprises integrated software platforms designed to manage essential business operations through a unified interface and centralized database [1]. ERP offers automation, consistency, and transparency while processing information, and enables organizations to reduce redundancy, streamline workflow, and upgrade the efficiency of operations.

2.2. Success Factors in ERP Implementation

The literature has cited several critical success factors (CSFs) that tend to influence ERP project success to a significant degree. Top management backing, adequate communication, clearly stated project goals, adequate training, and excellent project leadership are cited among such CSFs [5]. Reference [6] lays specific emphasis on matching ERP software to business processes and managing organizational change adequately. Reference [7] takes this one step further and organizes success factors by ERP implementation phases, showing the evolving nature of success criteria over time.

2.3. Failure Factors in ERP Implementation

The majority of ERP implementation failures are a result of non-technical factors like insufficient end-user involvement, ill-defined requirements, and insufficient change management [4]. The implementation failures result in cost overruns, end-user discontent, and ultimate ERP system abandonment. Reference [2] argues that most failures have their origin in poor readiness on the part of the organization, cultural resistance, and communication failure among the stakeholders.

2.4. Research Gap

Though extensive work on ERP implementation exists, much work has been limited to specific countries, industries, or firm sizes. Little work has been done on an overall global synthesis between success and failure factors, and there are limited reviews that involve a comparative study across different contexts. The current SLR bridges this gap by reviewing global sources holistically to obtain an overall understanding regarding enablers and inhibitors to the success of ERP implementation.

3. Methodology

This study used a systematic literature review (SLR) approach to identify, evaluate, and synthesize published literature on ERP implementation successes and failures. The review process followed guidelines and consisted of the following stages: planning, identification, screening, eligibility, and inclusion [8], [9].

3.1. Research Questions

To guide this research, the following research questions were developed:

- RQ1: What are the key factors that contribute to the success of ERP implementations in organizations around the world?
- RQ2: What are the main factors that contribute to ERP implementation failures across different contexts?
- RQ3: What lessons can be learned from these success and failure factors to improve future global ERP implementations?

3.2. PICOC Framework

To ensure consistency in study selection and relevance, the PICOC framework [10] was adopted and is summarized in Table 1.

Table 1: PICOC Criteria for Study Selection

Component	Description
Population (P)	Organizations implementing ERP systems
Intervention (I)	Identification of critical success or failure factors
Comparison (C)	Not applicable
Outcome (O)	Insights into factors influencing ERP implementation results
Context (C)	Studies within any industry or region, published between 2022–2025

3.3. Search Strategy

The search strategy was designed to comprehensively and systematically identify relevant studies on the success and failure factors of enterprise resource planning (ERP) implementation. References were extracted from three prestigious academic databases: ScienceDirect, SpringerLink, and IEEE Xplore. These databases were selected for their comprehensive coverage of peer-reviewed publications in the field of information systems and enterprise technology.

The search queries were created using a combination of keywords and Boolean operations. The main terms used are: “ERP implementation success factors”, “ERP failure causes”, “critical success factors for ERP systems”, and “ERP challenges”. The terms have been used in various combinations to cover a large volume of relevant literature.

The inclusion and exclusion criteria are listed in Table 2.

Table 2: Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Peer-reviewed journal articles or conference papers Published between 2022 and 2025	Non-academic sources Published before 2022

Written in English or Indonesian	Articles in other languages
Focused on ERP implementation success or failure factors (CSFs/CFFs)	Not related to ERP implementation or lacking relevance to CSFs/CFFs

3.4. Data Extraction and Quality Assessment

A structured data extraction form was created to collect the following attributes from each article: author(s), year, and identified success or failure factors. Each article was assessed using a quality checklist [8], focusing on clarity of purpose, methodological rigor, and alignment with the research question.

4. Results and Discussion

The next section presents the results of the systematic literature review and provides a comprehensive discussion based on the research questions.

4.1. Identified Success Factors in ERP Implementation (RQ1)

The success of an ERP implementation depends on several key factors, including management, users, technology, and processes. Based on the reviewed studies, eight critical success factors were consistently identified across various organizational contexts. These factors are summarized in Table 3.

Table 3: Critical Success Factors in ERP Implementation

Success Factor	Description	Sources
Top Management Support	Strong leadership, involvement in planning, and resource commitment	[11], [12], [13]
Effective Resource Allocation	Strategic use of budget, human resources, and time to address key priorities.	[11]
User Training and Involvement	Continuous training and involvement in decision-making and system setup.	[12], [14]
Business Process Alignment	Alignment of ERP features with existing workflows.	[15]
Technological Readiness	Infrastructure, system compatibility, and technical skills	[16], [17]
Communication and Change Management	Clear communication and organized handling of resistance	[12]
Integration with Emerging Technologies	Use of blockchain, cloud, or IoT to improve ERP	[16]
Theoretical Models Guiding Adoption	Use of TAM, TOE, and IS success models to support ERP adoption over time.	[11]

Top management support is the most common factor contributing to direction, coordination, and resources [11], [12], [13]. Proper resource allocation improves efficiency and helps focus efforts on the areas with the greatest impact [13]. User training and engagement ensure smoother implementation and reduce resistance [12], [14], while change management and clear communication keep stakeholders informed and engaged [12].

Technology also plays a key role. Organizations need robust infrastructure, ERP integration with existing systems, and skilled staff [16], [17]. Matching ERP to business processes helps avoid disruption [15]. Some studies emphasize the importance of integrating ERP with new technologies, such as blockchain or cloud platforms, to increase transparency and automation [16]. Other studies use theoretical models, such as TAM and TOE, to explain how these factors support long-term ERP adoption [11]. These factors offer practical guidance for planning and managing ERP projects, helping organizations reduce risk and improve performance.

4.2. Identified Failure Factors in ERP Implementation (RQ2)

Although many organizations are using ERP to improve efficiency and integration, there are still a significant number of implementation failures. The review identifies eight critical failure factors that often contribute to failed ERP projects across sectors. The factors discussed in Table 4 cover issues related to leadership, user, technology, business adaptation, and context-specific difficulties.

Table 4: Critical Failure Factors in ERP Implementation

Failure Factor	Description	Sources
Lack of Top Management Support	Weak leadership reduces strategic focus and resource allocation	[11], [18]
Inadequate User Training	Lack of training limits users' ability to use ERP effectively	[18]
User Resistance	Resistance arises from fear, usability issues, or low involvement	[19]
Poor Business Process Reengineering	Misaligned processes due to poor workflow redesign	[20]
Data Security and Privacy Concerns	Security risks and vendor lock-in limit cloud ERP adoption	[21], [22]
Overreliance on Legacy Methods	Outdated ERP methods hinder adaptation to modern practices	[23]
Lack of System Fit with Business	ERP fails to align with business goals or needs	[18]
Limited Research on SME Challenges	ERP issues specific to SMEs remain insufficiently studied	[22]

Lack of top management support remains one of the most cited causes of ERP failure. Without executive involvement and clear leadership, projects often lose direction and resource commitment [11], [18]. Similarly, when users are not properly trained, they lack the competence to operate the system efficiently [18].

Resistance from users also emerges as a major barrier. This is often driven by fear of change, lack of usability, or minimal involvement in the implementation process [19]. Another crucial problem lies in poor reengineering of business processes. The inability to align work processes to ERP functionalities may lead to system misfit and inefficiency in operation [20].

As more and more companies adopt cloud ERP, security and privacy of data have become very prominent topics. Organizations fear data breaches and vendor lock-in, particularly when they are highly regulated entities [21], [22]. Meanwhile, numerous still employ antiquated ERP methods that do not involve agile or iterative best practices and therefore are not very agile within evolving environments [23].

Lastly, SME-specific issues receive very minimal consideration. Little research exists that adequately examines or refines them to account for their shortcomings, and this has led to voids in the planning of ERP within this sector [22]. These failure factors are good sources of knowledge on how to predict failures and improve strategy planning during the implementation of ERP.

4.3. Practical Implications (RQ3)

Identifying key factors for success and failure in ERP implementations offers valuable lessons for organizations seeking to improve project success rates. Success tends to depend heavily on appropriate leadership, company readiness, end-user engagement, and the right technology infrastructure. Conversely, failure tends to occur when these factors are absent, demonstrating the close relationship between success and failure.

Executive support is crucial. Leaders should not only approve budgets but also actively participate in planning, leading change, and auditing progress. Similarly, end-users are more likely to accept and utilize the system effectively if they are properly trained and guided during key implementation stages. With little or no training or involvement, resistance is likely to arise, and adoption and value will be minimal.

Aligning the ERP system with business processes is another key factor. ERP implementation is not simply a software upgrade, but also provides an opportunity to improve a company's business processes. If business processes are not aligned with the system, the implementation will lead to misalignment and loss of value. While new technologies like cloud ERP and blockchain are being introduced as foundations for innovation, they also raise issues related to data security and privacy, which must be carefully addressed.

Finally, ERP software must be tailored to meet the unique needs of each company. This is especially important for small and medium-sized enterprises (SMEs), which face different challenges than larger enterprises. Theoretical models such as TAM, TOE, and information systems success models can assist in planning, implementation, and evaluation. ERP implementation presents a key challenge in balancing technological, organizational, and human factors.

4.4. Theoretical Contributions

This study contributes to the theoretical understanding of ERP adoption by linking key success and failure factors to three established models: the Technology Acceptance Model (TAM), the Technology-Organization-Environment (TOE) framework, and the Information Systems (IS) Success Model. The TAM explains how factors such as training, commitment, and resistance influence ERP adoption by determining user perceptions of usefulness and ease of use.

The TOE framework is reflected through three key dimensions. The technological context comprises technological readiness in terms of infrastructure and system compatibility, as well as the adoption of new technologies such as blockchain and cloud computing. However, issues related to data security and the sustainability of aging ERP systems characterize technological vulnerabilities. At the organizational level, variables such as organizational commitment by top executives, budget allocation, and alignment of ERP business processes are often cited as crucial factors for success. On the other hand, the environmental level encompasses external factors such as the lack of ERP methodologies designed to suit the SME environment, which has received limited research to date.

Information system success models are illustrated by their emphasis on system fit, end-user satisfaction, and overall benefits. Failure to redesign business processes and a lack of system alignment tend to undermine these outcomes. By combining these three models, this study not only enriches existing theoretical contributions but also further highlights gaps in ERP research, particularly regarding cloud-based systems and the specific challenges facing SMEs.

5. Conclusion

This study integrates findings from thirteen peer-reviewed studies published between 2022 and 2025 to provide a comprehensive and innovative synthesis of global success and failure factors (CSFs and CFFs) in ERP implementation. Unlike previous studies that were limited to specific regions or sectors, this study finds a similar pattern between enabling and inhibiting factors, suggesting that factors such as executive support, user training, and business process alignment can determine the success or failure of ERP projects. The study also addresses previously underexplored areas such as technical risks in cloud-based ERP systems and the unique challenges faced by SMEs, providing a more adaptive and contextual perspective. By grounding the analysis in established theoretical frameworks such as TAM, TOE, and the Information Systems Success Model, the study blends practical insights with academic depth. A key contribution of this study is providing a unified, theory-backed model for organizations and researchers to plan better, implement, and evaluate ERP implementations in an increasingly complex and evolving environment.

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