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Understanding IT project failure in the digital age: A systematic literature review and taxonomy of contemporary failure factors

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Abstract

This study aims to identify and systematize contemporary factors associated with IT project failure and examine their relationship with factors established in earlier literature. A systematic literature review covering publications from January 1, 2021, to September 30, 2025, was conducted in accordance with PRISMA 2020 and PRISMA-S guidelines. Fifteen studies were included in the qualitative synthesis, while 12 studies were used for factor and frequency analysis. Data extraction yielded 86 coded findings, which were standardized into 76 distinct factors and grouped into seven dimensions. Project management and governance was the most prevalent dimension, appearing in 75.0% of the studies, while inadequate planning was the most frequently identified individual factor. Comparison with literature published up to 2020 showed that 65.8% of the factors were traditional or persistent, 27.6% were evolving, and 6.6% were contemporary. Contemporary factors were primarily associated with AI/ML projects and risks related to data, privacy, and model maintenance. The findings indicate that the digital era has not eliminated traditional causes of IT project failure, but has increased their complexity and interdependence.

Keywords: *IT project failure, failure factors, systematic literature review, IT project management*

1. Introduction

Information technologies play a central role in contemporary organizational change, the digitalization of business processes, and the development of new business models. As a result, many strategic initiatives are implemented through projects involving the development and implementation of information systems, software development, digital transformation, and, increasingly, solutions based on artificial intelligence and machine learning. However, the growing importance of IT projects has not eliminated the problem of project failure. Failed projects may lead to cost overruns and delays, failure to deliver planned functionalities, inefficient use of organizational resources, and delays in or complete loss of the expected benefits of digitalization (Schmidt, 2023).

IT project failure is a complex and multidimensional phenomenon. Traditionally, project outcomes have been assessed in terms of time, cost, and scope, but this definition is not sufficient for all types of IT projects. A project may be formally completed while the resulting solution fails to meet functional requirements, is not accepted by users, or does not deliver the expected organizational value. A contemporary understanding of failure therefore requires a broader perspective that considers not only project constraints but also the technical, organizational, human, and business consequences of the project (Schmidt, 2022, 2023).

The causes of IT project failure have been studied for several decades. The systematic review by Albarzanji and Alsabawy (2021), based on literature published between 1990 and 2020, showed that traditional causes include planning problems, organizational factors, shortages of resources and managerial expertise, insufficient organizational support, problems related to requirements and scope, project complexity, inadequate communication, inappropriate methodologies, and weaknesses in risk management. Recent studies confirm that many of these problems have not disappeared. For example, Nyansiro et al. (2021) identified 18 causal factors associated with the failure of e-government information systems, among which inadequate requirements management, inadequate project management, and missing or incomplete functionalities were among the most prominent.

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At the same time, the environment in which IT projects are carried out has changed considerably. Digital transformation projects involve a larger number of heterogeneous stakeholders, more intensive cross-functional and interorganizational relationships, and more complex processes for aligning business and technological objectives. Uchihira and Eimura (2022) show that such projects may be undermined by information and experience gaps, incompatible evaluation criteria, conflicts of interest, differing perceptions of the future state, and a lack of mutual trust. Global and distributed software development further increases the importance of cultural differences, distance, coordination, communication, and the availability of appropriate skills and resources (Iftikhar et al., 2022).

Technological development also introduces risks that were either absent from traditional taxonomies or did not have the same level of importance. Machine learning projects depend not only on the quality of project management and the development process, but also on the availability, quality, and suitability of data, as well as other specific technical conditions (Lin & Huang, 2024). At the same time, recent studies increasingly use data analytics and machine learning to identify predictive indicators of project risk and failure (Strang & Vajjhala, 2023; Alatawi et al., 2023; Berriche & Loulizi, 2025). These findings extend existing knowledge, but they also require a clear distinction between factors that may contribute to project failure and characteristics that primarily have predictive value.

Recent literature also suggests that examining individual factors in isolation is not sufficient to fully explain failure. Factors may interact with one another, vary in importance over the project life cycle, and trigger different failure mechanisms (Schmidt, 2023; Joshi & Dixit Joshi, 2025). Problems may also emerge before formal project execution begins, during proposal development, feasibility assessment, and contracting, which extends the relevance of risk management to the pre-project stage (Viduranga & Divakara, 2025). Understanding the failure of contemporary IT projects therefore requires simultaneous consideration of the persistence of traditional problems and the changing ways in which they manifest themselves in new technological and organizational settings.

Although the literature on IT project failure is extensive, research findings remain terminologically and conceptually fragmented. Different studies use terms such as causes, factors, risks, barriers, indicators, and failure mechanisms, while the projects examined differ in terms of technology, sector, organizational context, and research approach. In particular, there is a lack of an integrated analysis of literature published after 2020 that would show which traditional factors remain relevant, how they are changing in the contemporary digital environment, and which new factors are emerging with the development of digital transformation, distributed development, and data-intensive projects.

Against this background, the aim of this study is to systematically identify and synthesize contemporary factors associated with IT project failure in literature published between January 1, 2021, and September 30, 2025, to organize them into an integrated taxonomy, and to examine their relationship with factors identified in earlier literature. Particular attention is given to distinguishing traditional and persistent factors, their evolving manifestations, and factors that are more characteristic of the contemporary digital environment. In line with the aim of the study, the following research questions were formulated:

- RQ1: Which factors associated with IT project failure were identified in the scientific literature published between January 1, 2021, and September 30, 2025?
- RQ2: How can the identified failure factors be systematized and classified into broader conceptual dimensions?
- RQ3: Which traditional failure factors remain relevant, and which factors are evolving or gaining importance in the contemporary digital environment?
- RQ4: What research gaps and directions for future research emerge from the contemporary literature on IT project failure?

2. Methodology

2.1. Research design and search strategy

The study was conducted as a systematic literature review combining qualitative and descriptive synthesis of the findings. The process of identifying, selecting, and reporting the studies was structured in accordance with the PRISMA 2020 guidelines (Page et al., 2021), while the search strategy was documented following the PRISMA-S recommendations (Rethlefsen et al., 2021).

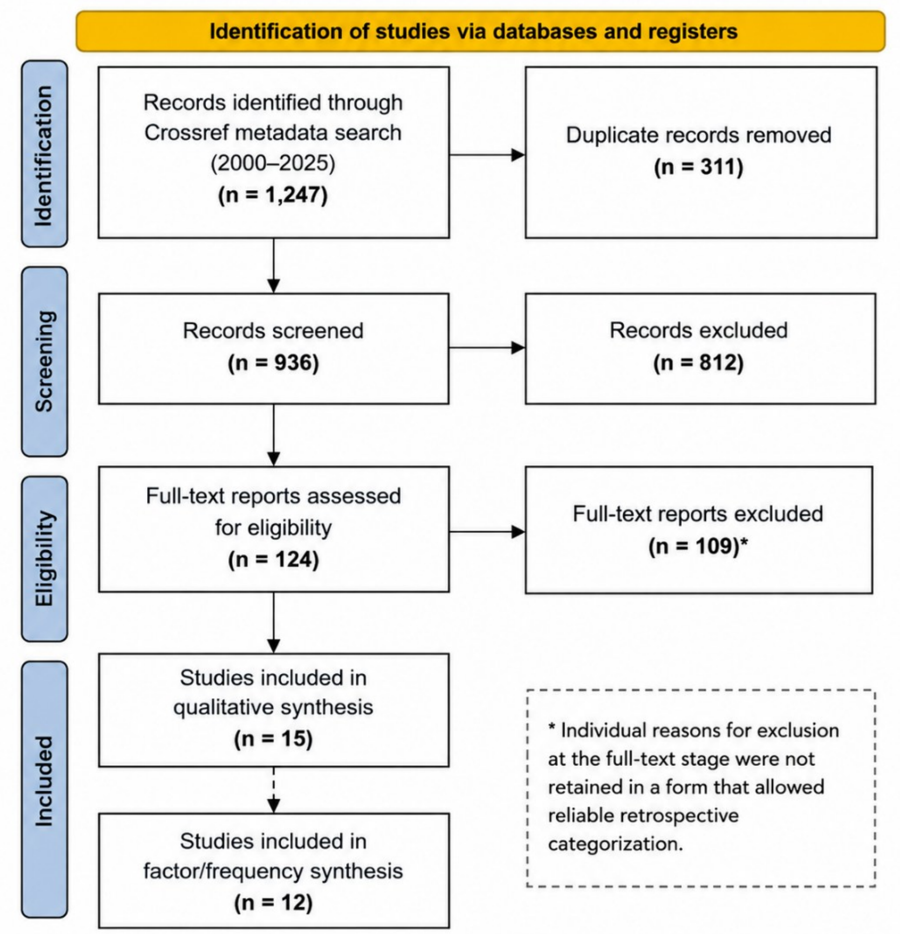
The review covered the period from January 1, 2021, to September 30, 2025. This time frame was selected based on the systematic review by Albarzanji and Alsabawy (2021), which examined literature on the causes of IT project failure published between 1990 and 2020. Their findings served as a baseline for comparing traditional failure factors with those identified in more recent studies.

Crossref was used as the primary source of bibliographic records. Given the characteristics of its search system, several predefined combinations of search terms were used instead of a single complex Boolean expression. The following search terms were applied: “IT project failure”; “information technology project failure”; “information systems project failure”;

"software project failure"; "IT project failure factors"; "software project failure factors"; "IT project failure causes"; "software project risk factors"; "IT project challenges"; "software project challenges".

The results of the individual searches were merged into a single database. Duplicate records were identified primarily by DOI and then further checked by title, author, and year of publication. The primary search yielded 1,247 records. After removing 311 duplicates, 936 unique records remained for title and abstract screening. At this stage, 812 records were excluded, while 124 articles were retained for full-text assessment. In addition to the primary search, supplementary targeted searches and reference checking of relevant studies were conducted to identify publications using different terminology. When the same study was identified through more than one source, it was recorded only once in the database. The study selection process is presented in Figure 1.

Figure 1. PRISMA 2020 flow diagram of the study selection process



Source: Authors owns elaboration based on Page et al. (2021).

2.2. Selection criteria and quality assessment

The review included studies published between January 1, 2021, and September 30, 2025, written in English and published in peer-reviewed scientific journals. To be eligible, a study had to focus on IT projects, information systems, software development, digital transformation, or another clearly defined digital project context, and had to allow the identification of at least one factor, cause, risk, barrier, indicator, or mechanism associated with project failure. Qualitative, quantitative, mixed-methods, case study, and review articles were included if they met these criteria.

Studies were excluded if they were not sufficiently related to IT or software projects, focused exclusively on project success without allowing the direct extraction of failure factors, fell outside the defined time period, were not published in peer-reviewed journals, or were considered methodologically insufficient for inclusion in the main analytical synthesis.

Methodological quality was assessed in accordance with the research design of each study. For empirical qualitative, quantitative, and mixed-methods studies, the principles of the Mixed Methods Appraisal Tool (MMAT) were applied (Hong et al., 2018), while review articles were assessed according to the principles of critical appraisal for systematic reviews. The assessment considered the clarity of the research aim, appropriateness of the study design, transparency of the sample or data sources, rigor of the analytical procedure, and the extent to which the findings were supported by the evidence. Studies assessed as methodologically weak were not included in the frequency synthesis, although they could be retained as contextual sources when justified.

2.3. Data extraction and analysis

Following study selection and quality assessment, two interrelated analytical sets were established. The broader systematic qualitative synthesis included 15 studies relevant to the factors, causes, risks, indicators, definitions, or mechanisms of IT project failure. Of these, 12 studies were included in the factor and frequency synthesis because they allowed the direct extraction of individual factors, risks, barriers, or predictive indicators associated with failure. Money et al. (2022), Nizam (2022), and Schmidt (2022) were retained in the qualitative synthesis because of their contribution to understanding forensic analysis, the development process of failure, definitions of failure, and project termination decisions, but they were not used in counting individual factors.

For each study, basic bibliographic information, project context, methodological approach, sample or unit of analysis, and findings relevant to project failure were recorded. Factors were first documented using the terminology employed by the original authors and were then standardized to consolidate synonymous or conceptually very similar expressions. Factors that were only terminologically similar but conceptually different were not merged.

The final database contained 86 coded findings, which were consolidated into 76 distinct factors after standardization. These factors were grouped into seven broader dimensions: project management and governance; requirements, scope, and functionality; people, competencies, and leadership; communication, stakeholders, and collaboration; technology, architecture, and data/AI; resources, contracting, and external dependencies; and methodology and development process.

The frequency of each individual factor was determined by the number of different studies, among the 12 included in the factor synthesis, in which that factor was explicitly identified. If the same factor appeared more than once within a single study, it was counted only once when calculating its prevalence. The prevalence of the broader dimensions was determined in the same way. The resulting frequencies therefore indicate the presence of findings within the analyzed corpus rather than effect size or the causal strength of individual factors.

To address the third research question, the standardized factors were compared with the categories identified in the systematic review by Albarzanji and Alsabawy (2021). The factors were then classified as traditional/persistent, evolving, or contemporary. Traditional/persistent factors correspond directly or very closely to problems already identified in the literature up to 2020. Evolving factors have roots in earlier factors but take on more specific forms in the contemporary digital environment, whereas contemporary factors lack a sufficiently direct equivalent in the baseline taxonomy and are associated with more recent technological or organizational conditions. On this basis, 50 factors were classified as traditional/persistent, 21 as evolving, and 5 as contemporary.
Research gaps and directions for future research were synthesized from the limitations reported in the included studies, authors' recommendations, and recurring patterns across the literature. Given the heterogeneity of research designs, project contexts, operationalizations of failure, and types of evidence, a quantitative meta-analysis was not considered appropriate. The findings were therefore synthesized qualitatively and descriptively, together with a frequency analysis of the standardized factors and broader dimensions.

3. Results

3.1. Characteristics of the included studies

A total of 15 studies were included in the systematic qualitative synthesis, while 12 studies allowed the direct extraction of factors, risks, barriers, or validated predictive indicators and were therefore included in the factor and frequency analyses. Three studies were retained because they contributed to understanding the processes, mechanisms, and conceptualization of failure, but they were not used for factor counting.

The included studies covered a range of IT project contexts, including e-government information systems, digital transformation projects, global and distributed software development, conventional software projects, large-scale IT projects, machine learning-based projects, and projects conducted by ICT service companies. The methodological approaches were heterogeneous and included literature reviews and qualitative meta-syntheses, interviews, case studies and postmortem analyses, ISM–MICMAC modeling, Delphi and AHP methods, as well as machine learning and artificial neural network models.

Table 1. Studies included in the factor synthesis

Author(s), year	Context	Methodological approach	Type of finding relevant to failure
Nyansiro et al. (2021)	E-government/IS projects	Literature review, qualitative meta-synthesis, and root-cause analysis	Causal factors
Uchihira & Eimura (2022)	Digital transformation	Qualitative interviews	Barriers to collaboration
Iftikhar et al. (2022)	Global/distributed software development	Review, practitioner validation, Pareto analysis, and algorithmic prioritization	Prioritized risks
Taye & Feleke (2022)	Software projects	Survey and ML classification	Factors associated with failure
Schmidt (2023)	IT projects	Mixed-methods analysis	Factors, causes, and mechanisms
Strang & Vajjhala (2023)	IT projects	Random forest and logistic regression	Predictive indicators
Alatawi et al. (2023)	Software projects	ANN modeling	Predictive risk areas
Lin & Huang (2024)	ML software projects	Modified Delphi and AHP	Technical risks
Schmidt (2024)	Large-scale IT project	Postmortem and root-cause analysis	Root causes
Joshi & Dixit Joshi (2025)	Software projects	ISM–MICMAC	Structural risk factors
Viduranga & Divakara (2025)	ICT service projects	Interviews and document analysis	Pre-sales failure factors
Berriche & Loulizi (2025)	Software projects	Ensemble ML and SHAP	Predictive indicators

Source: Systematized based on the final study database

3.2. Failure factors and their taxonomy

The extraction of findings from the 12 studies yielded 86 individual coded findings, which were consolidated into 76 distinct factors after terminological and conceptual standardization. These factors were grouped into seven broader dimensions: project management and governance; requirements, scope, and functionality; people, competencies, and leadership; communication, stakeholders, and collaboration; technology, architecture, and data/AI; resources, contracting, and external dependencies; and methodology and development process.

The most prevalent dimension was project management and governance, identified in 9 of the 12 studies (75.0%). This was followed by resources, contracting, and external dependencies, reported in 8 studies (66.7%), and technology, architecture, and data/AI, identified in 7 studies (58.3%). The dimensions of communication, stakeholders, and collaboration; people, competencies, and leadership; and methodology and development process were each identified in 6 studies (50.0%), while requirements, scope, and functionality were represented in 5 studies (41.7%).

Table 2. Prevalence of the broader dimensions of failure factors

Dimension	Number of studies	% of studies
Project management and governance	9	75.0
Resources, contracting, and external dependencies	8	66.7
Technology, architecture, and data/AI	7	58.3
Communication, stakeholders, and collaboration	6	50.0
People, competencies, and leadership	6	50.0
Methodology and development process	6	50.0

Source: Systematized based on the final study database

At the level of individual factors, no strong concentration around a small number of universal causes was observed. Inadequate planning was the most frequently identified factor, appearing in 4 of the 12 studies (33.3%). Unclear or unstable requirements were identified in 3 studies (25.0%). Two studies each (16.7%) identified inadequate project management, unrealistic time planning and deadlines, inadequate development methods or processes, project complexity, and technological immaturity or novelty. The remaining standardized factors were identified in individual studies.

This distribution points to a high degree of heterogeneity in the contemporary literature. In addition to traditional problems related to planning, requirements, resources, competencies, and management, the studies also identify more context-specific factors. In digital transformation projects, these include information and experience gaps, incompatible evaluation criteria, conflicts of interest, differing perceptions of the future state, and lack of trust. Global software development additionally highlights cultural differences and coordination problems in distributed teams.

The contemporary technological context is particularly evident in machine learning-based projects. Identified risks include data availability and quality, data leakage across stages of the ML process, model overfitting, privacy protection, and problems associated with the continuous maintenance of ML systems. In ICT service environments, risks also extend to the period before formal project execution, including inadequate elicitation of functional and non-functional requirements, weak assessment of technological feasibility and risks, underestimation of required effort and costs, and unrealistic commitments during proposal preparation.

3.3. Traditional, evolving, and contemporary factors

Comparison of the 76 standardized factors with findings from the literature published up to 2020 showed that 50 factors (65.8%) represent traditional or persistent problems, 21 factors (27.6%) represent evolving forms of previously known problems, while 5 factors (6.6%) were classified as contemporary. This finding indicates that most failure factors identified after 2020 show clear continuity with earlier literature, while at the same time more complex manifestations of existing problems and a smaller number of factors directly associated with new technological contexts have emerged.

Table 3. Classification of failure factors according to their relationship with earlier literature

Category	Number of factors	%	Examples
Traditional/persistent	50	65.8	Inadequate planning; unclear requirements; insufficient resources; inadequate communication; technical complexity
Evolving	21	27.6	Information and experience gaps; cultural differences; technological novelty; external dependencies; pre-sales risks
Contemporary	5	6.6	Data availability and quality; data leakage; ML model overfitting; insufficient data privacy protection; continuous maintenance of ML systems

Source: Systematized based on the final study database

The traditional group includes, among others, problems related to planning and project management, unclear requirements, cost and schedule overruns, insufficient resources, lack of competencies and leadership, inadequate communication, weak management support, technical complexity, and inappropriate development processes. Their continued presence confirms that rapid technological development has not eliminated the fundamental weaknesses of IT project management.

Evolving factors represent more specific manifestations of known problems. These include information and experience gaps between stakeholders, lack of mutual trust, cultural differences in distributed teams, technological novelty within the organization, system integration problems, external dependencies, more complex relationships with suppliers, and risks arising during the pre-sales stage. Their specific character stems primarily from the larger number of actors involved, distributed work, stronger dependence on external organizations, and rapid technological change.

The factors classified as clearly contemporary were data availability and quality, data leakage in the ML process, overfitting of ML models, insufficient protection of data privacy, and problems associated with the continuous maintenance of ML systems. All five are related to the development of machine learning-based software systems and indicate that the dependence of contemporary projects on data and models introduces risks that cannot be fully reduced to traditional categories of software and project risk.

3.4. Research gaps and directions for future research

The analysis of the included studies shows that the contemporary literature still more often identifies individual failure factors than explains the relationships among them and the mechanisms through which they operate. In particular, there is a lack of studies examining when specific factors emerge during the project life cycle and how they interact with and reinforce one another (Schmidt, 2023; Joshi & Dixit Joshi, 2025).

Further research is needed in contemporary technological contexts, particularly in AI/ML projects, where specific risks arise in relation to data quality and availability, data leakage, model overfitting, privacy protection, and the continuous maintenance of systems (Lin & Huang, 2024).

The findings also point to the need for a better understanding of contextual differences across sectors, project types, and organizational settings. Particular attention should also be given to the pre-project and pre-sales stages, where problems may arise that later contribute to project failure (Viduranga & Divakara, 2025).

Future research should therefore place less emphasis on developing new lists of factors and more on explaining their interrelationships, temporal dynamics, and the conditions under which they contribute to failure. It is especially important to distinguish predictive indicators from actual causal mechanisms, particularly in studies that use machine learning models (Strang & Vajjhala, 2023; Berriche & Loulizi, 2025).

4. Discussion

The findings of this systematic review show that IT project failure in the contemporary digital environment still exhibits strong continuity with problems identified in earlier literature. Of the 76 standardized factors, 50 were classified as traditional or persistent, 21 as evolving, and 5 as contemporary. This suggests that technological change has not replaced the fundamental causes of failure, but has primarily changed the ways in which they manifest themselves in more complex project environments.

The most prevalent dimension was project management and governance, identified in 9 of the 12 studies. This finding confirms the long-term importance of planning, control, risk management, management support, and clearly defined project objectives. Similar problems were recognized in earlier studies of project and information systems failure (Pinto & Mantel, 1990; Kappelman et al., 2006; Albarzanji & Alsabawy, 2021). It is particularly notable that inadequate planning was the most frequently identified individual factor in the contemporary corpus, indicating that fundamental weaknesses in project management remain relevant despite advances in technologies and methodologies.

Continuity with earlier literature is also evident in the area of requirements, scope, and functionality. Unclear or unstable requirements were identified in several studies, while additional problems included inadequate requirements management, incomplete functionality, non-functional requirements, and uncontrolled scope expansion. These findings confirm that the quality of requirements definition and management remains one of the key areas of vulnerability in IT projects (Nyansiro et al., 2021; Taye & Feleke, 2022; Schmidt, 2023; Joshi & Dixit Joshi, 2025).

At the same time, the contemporary digital environment broadens traditional human and organizational problems. In digital transformation projects, communication problems take more complex forms through information and experience gaps, incompatible evaluation criteria, differing perceptions of the future state, conflicts of interest, and lack of trust (Uchihira & Eimura, 2022). Similarly, global software development places additional emphasis on cultural differences, coordination of distributed teams, and the availability of appropriate competencies and resources (Iftikhar et al., 2022). These findings suggest that the traditional problem of communication is increasingly developing into a broader challenge of coordinating heterogeneous stakeholders.

The technological dimension shows the greatest change compared with earlier periods. In addition to traditional issues such as complexity, inadequate infrastructure, and technological immaturity, machine learning-based projects introduce specific risks related to data availability and quality, data leakage, model overfitting, privacy protection, and the continuous maintenance of ML systems (Lin & Huang, 2024). These factors provide the clearest examples of genuinely new risks arising from the nature of contemporary digital technologies.

The findings also suggest that sources of failure are increasingly extending beyond the boundaries of formal project execution. Problems involving suppliers, external dependencies, and pre-sales activities indicate that significant risks may develop as early as the stages of feasibility assessment, requirements definition, resource estimation, and proposal preparation (Schmidt, 2023; Viduranga & Divakara, 2025). This broadens the traditional understanding of project risk to include the wider project ecosystem and the pre-project stage.

Another important finding of this review is the pronounced fragmentation of individual factors. Although 76 standardized factors were identified, relatively few appeared in more than one study. This does not mean that factors identified in a single study are less important; rather, it reflects the heterogeneity of project contexts, methodologies, and definitions of failure. Frequency should therefore be interpreted as an indicator of prevalence in the analyzed literature rather than as a measure of causal strength.

Overall, the findings support an understanding of IT project failure as an interdependent system of project, organizational, human, and technological factors. Contemporary literature increasingly shows that individual factors do not operate in isolation, but through interrelationships and mechanisms that may change over the course of a project (Schmidt, 2023; Joshi & Dixit Joshi, 2025). The taxonomy developed in this study can therefore provide a basis for further theoretical modeling as well as for a more structured assessment of project risk in practice.

5. Conclusion

This systematic review shows that IT project failure in the digital age reflects a combination of persistent project-related problems and their new manifestations in increasingly complex technological and organizational environments. Across the literature published between January 1, 2021, and September 30, 2025, 76 standardized factors were identified and organized into seven broader dimensions. Most of the identified factors represent traditional or persistent problems, while evolving factors illustrate how established risks are changing under the influence of digital transformation, distributed work, a growing number of stakeholders, and external dependencies. A smaller group of clearly contemporary factors is primarily associated with AI/ML projects and their dependence on data quality, privacy protection, model behavior, and continuous maintenance.

The key finding of this study is that the digital age has not eliminated the traditional causes of IT project failure, but has made them more complex and interdependent. Future research should therefore place less emphasis on developing new lists of failure factors and more on explaining their interrelationships, temporal dynamics, and the mechanisms through which they contribute to project failure.

5.1. Theoretical and practical implications

The findings of this review have several theoretical implications. First, they confirm that IT project failure should continue to be viewed as a multidimensional phenomenon arising from the interaction of project, organizational, human, and technological factors. This interpretation is consistent with earlier research showing that project failure cannot be explained by a single isolated cause, but rather by combinations of interrelated factors and different dimensions of project performance (Pinto & Mantel, 1990; Kappelman et al., 2006; Albarzanji & Alsabawy, 2021). The seven-dimensional taxonomy developed in this study brings together terminologically fragmented findings from the contemporary literature and provides a structured framework for their comparison.

A second theoretical implication concerns the distinction between traditional, evolving, and contemporary factors. The findings show that most current problems represent either continuity with or transformations of previously recognized risks, which is consistent with the categories identified in earlier literature on IT project failure (Albarzanji & Alsabawy, 2021). At the same time, the emergence of risks related to data availability and quality, data leakage, model overfitting, privacy protection, and the continuous maintenance of ML systems indicates that newer technological contexts introduce factors that are not fully captured by traditional taxonomies (Lin & Huang, 2024). Existing models of project failure can therefore be extended without assuming that the digital environment has fundamentally altered the underlying logic of project failure.

From a practical perspective, the findings indicate that organizations should not focus exclusively on new technological risks. Established issues related to planning, requirements, resources, competencies, communication, and management support remain central. At the same time, risk assessment should also incorporate contemporary challenges associated with data, AI/ML systems, external dependencies, distributed teams, and the pre-sales stage. The taxonomy developed in this study may serve as a basis for structured checklists, project risk assessment, and postmortem analyses. In applying it, particular attention should be paid to distinguishing factors with a potentially causal role from those that function primarily as predictive indicators or symptoms of possible failure.

5.2. Research limitations

This study has several limitations. First, the search was primarily based on Crossref, which means that some relevant publications may not have been identified if they were not adequately indexed or used substantially different terminology. This risk was partly mitigated through supplementary targeted searches and reference checking of relevant studies.

A second limitation concerns the heterogeneity of the included studies. They differ in terms of project type, sector, research design, definition of failure, and the way failure factors were identified, making statistical aggregation of their findings inappropriate. The frequencies reported in this study should therefore be interpreted as the prevalence of factors in the analyzed literature rather than as measures of their relative importance or causal strength.

In addition, some of the included studies use predictive models, meaning that the identified indicators cannot automatically be interpreted as causes of failure. Finally, the classification of factors as traditional, evolving, or contemporary is based on comparison with the selected baseline review covering the literature up to 2020. Certain factors might therefore be classified differently if another historical reference framework were applied.

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