



Critical Failure Factors in ERP Implementation: A Systematic Literature Review

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ABSTRACT

It has been more than two decades of experience adopting and implementing enterprise resource planning (ERP) systems in business. However, the success of these systems remains debatable. The failure rate of ERP systems is relatively high, despite the fact that success stories of ERPs are recorded in earlier research studies. The main purpose of this study is to identify and assess the degree of ERP implementation failure factors encountered by organisations and confirm which is significant in various countries. A systematic literature review was performed, considering research studies published between 2000 to 2022 for this purpose. This study critically reviewed 55 relevant articles published in reputable journals. The systematic literature review identified 35 failure factors categorised as the most critical based on their occurrence in past studies. The top five failure factors included lack of top management support, Inadequate education and training, the mismatch between the system and business strategies, lack of project management performers, and users unwilling to use the ERP system. According to the country-wise evaluation, "Lack of top management support" is a critical failure factor of the ERP implementation for all clusters. However, the more frequent impact for Asian countries, with a moderate impact for European countries and less for North American countries. Also, "Inadequate education and training" is a major Critical failure factor for Asian and North American countries during ERP implementation projects. This is the first comprehensive systematic review attempted to identify the Critical failure factor during the implementation of ERP systems.

Keywords: Country wise evaluation, Critical failure factors, ERP implementation, ERP system, Systematic literature review.

INTRODUCTION

The origin of Enterprise resource planning (ERP) systems dates back more than five decades. ERP, which began from manufacturing cores two decades ago, has covered nearly all critical processes and

functions of organisations due to the exponential growth of information technology (IT) and business requirements (Huang & Yasuda, 2016). Since 1990, ERP systems have been used to help organisations redesign business processes using IT, and it has been a part

of organisational change that is either IT-driven or IT-mediated (Nagpal et al., 2015). ERP systems provide many advantages, and organisations adopt them to change inefficient stand-alone legacy systems, enhance communications between business capabilities, improve data processing, enhance customer relations, and improve the overall quality of decision-making (Cereola, 2006). Furthermore, ERP systems can also bring uniformity to the complete business enterprise by bringing all the business processes/tasks under one umbrella. Also, the system supports to integrate all activities through utility software encompassing special modules and consequently facilitates firms to perform and control their business procedures (Huang & Palvia, 2001; Kähkönen & Smolander, 2013). Moreover, the implementation of ERP systems in any company may reduce time consumption and the cost of different work procedures, consequently increasing the efficiency and effectiveness of the organization (Subramoniam et al., 2009; Tarigan et al., 2020).

The ERP system implementation is a complex, challenging, costly and time-consuming task (Xue et al., 2005). The average period for implementing the ERP system is between 6 months and 2 years (Aloini et al., 2007). ERP implementation requires allocating individual competencies and some human and financial assets. Additionally, the implementation is typically performed simultaneously with everyday business, which already ties up the available resources (Iskanius, 2009). Hence, the initial ERP implementation cost might be high, and there may be evidence to suggest that robust implementation is probably to yield a high return on investment (ROI) for a company (Venugopal & Suryaprakasa, 2011). Researchers and specialists acknowledge that despite the significant adoption of ERP systems, the

excessive implementation failure rate has caused a serious problem (Santos et al., 2018). ERP implementation requires a very high amount of capital and valuable resource investment, and any incident of implementation failure incident can severely disrupt an organisation's business cycles (Leu & Lee, 2017). In the past, popular organisations like Dell, Apple, and Whirlpool have confirmed debilitating difficulties in their respective ERP implementation efforts (Alsayat & Alenezi, 2018; Chakravorty et al., 2016).

The ERP implementation failure rate in organisations is quite excessive and the outcomes obtained imply that the failure of ERP implementation is between 67% - 90% (Calogero, 2000; Ramesh & Delen, 2021; Saxena & McDonagh, 2019; Shore, 2005). According to another survey, 70% of ERP implementations failed when delivering projects (Alaskari et al., 2019; Hawari & Heeks, 2010; Wang et al., 2007). Besides, Garg & Agarwal (2014) declares that ERP implementation, either failure or not accepted rates are higher than 77%. According to Panorama Consulting Group (2018), failure or not accepted rate is more than 60%. Even though the system is successfully implemented, the ERP journey is not ended after the "go-live" stage. The company has probably begun more challenges in the post-implementation period (Alzahrani et al., 2021; Willis & Willis-Brown, 2002).

Researchers define two failure types in ERP implementation projects: total failure (an organization has to bear a significant financial loss) and partial failure (misalignment in processes that adversely affect routine operations (Gargeya & Brady, 2005). Alternatively, Amid et al. (2012) emphasise that ERP failure can be classified into two categories: project failure and achieved outcome failure. A vital facet of Such failures is that they are universally unprejudiced. These occur in every country, any firm irrespective of its

size, non-profit and governmental organisations (Mabert et al., 2000). Initially, the failure category was defined by merely focusing on time-related factors or project costs (Peslak, 2006). However, the latter focused on finding the success or failure of ERP implementation, which is considering the level of the organisation's process integration, power of decision-making, internal communications development, and changing operational efficiency (Moalagh & Ravasan, 2013).

In the current context, most cases discuss critical success factors (CSF) rather than critical failure factors (CFF). 6% of journal publications contain CSF, and less than 1% discuss CFF (Huang, 2010; Prasetyo et al., 2019). Because of the excessive failure rate in ERP implementation, it is essential to identify in ERP implementation as a way to avoid mistakes that have occurred previously (Pan et al., 2008; Zare Ravasan & Mansouri, 2016). Consequently, this paper aims to identify critical failure factors in ERP implementation. The second phase of the paper is to evaluate the above findings and confirm which is significant in various countries.

The rest of the paper is structured as follows. The methodology of the study is described first, followed by the data evaluation. The analysis and findings of critical failure factors are described afterwards. Next, a discussion of the CFF identified is provided, followed by the conclusion with future research directions.

METHODOLOGY

Systematic Literature Review

A systematic process for identifying, evaluating, and interpreting work generated by researchers, scholars, and practitioners is defined as a systematic literature review (Mahmood et al., 2019a). Similarly, Fink (2010) defined a literature review research as the seven-step method

that involves identifying, evaluating, and synthesising the existing body of completed and recorded work conducted by researchers, scholars, and practitioners.

Prior to doing a systematic review/research synthesis, primary research on the topic is required, and it is always beneficial in formulating a problem that can be addressed in the proposed research study (Cooper et al., 2009; Xiao & Watson, 2019). Furthermore, Manten's diary (as cited in (Mahmood et al., 2019b), literature reviews are commonly thought to be not primarily based on new facts and observations but on publications providing such fundamental information, whereby the latter is digested and sorted, classified, simplified, and synthesised. Scholars frequently use terms like research synthesis, research review, and systematic review interchangeably, and there is no consensus on whether these differences are truly meaningful (Cooper et al., 2009; Xiao & Watson, 2019). Based on the previous research guidelines for systematic review/research synthesis (Kitchenham et al., 2010; Kitchenham & Charters, 2007; Mahmood et al., 2019a) were followed. Three essential procedures were followed in this study: planning, conducting and reporting.

Process of the SLR

In performing an SLR, the primary approach is to concentrate on the search strategies to address the research objective, such as which databases should be targeted in conjunction with a specific time frame from 2000 to 2022. Also, we consider which search terms appear to be necessary for finding the most relevant articles, which articles should be chosen, and what criteria should be used to evaluate the quality of the articles. In this step, the emphasis is on the selection and rejection of publications, as well as the establishment of some general SLR constraints. Based on the above

guidelines, we commence the data extraction process. Finally, we conduct a synthesis of existing research findings, as well as report the findings of the review, which should include results, discussion, and conclusion. Above steps are explored below.

Digital resources

The secondary data sources gathered in this research are from indexed journals (including articles in press) and conference proceedings, which qualifies them as reliable and credible. The practice of such sources is commonly advocated by various scholars such as Alsayat and Alenezi (2018), Mahmood et al. (2018) and Saunders et al. (2016). Inspired by those practices, we select data sources such as Emerald, JSTOR, EBSCO, Taylor & Francis, and Google Scholar databases to extract the required research papers.

Literature search

SLR uses a rigorous method to summarise the findings of existing research. The detailed search of the literature is based on a research objective, which allows the researcher to develop criteria for inclusion or exclusion, the effectiveness of the intervention, and the judgment about which evidence should be used to make recommendations about how to practice (Baker, 2016, p.267). As a research strategy, the specified keywords can be used for the database search (Kitchenham & Charters, 2007).

Our literature search method incorporates the main research objective mentioned in the introduction and basic concepts to generate accurate results. Additionally, the above search strategy will take into account all relevant search terms, keywords, and phrases. Finally, search outcomes found using search strings and their relevance to research questions are significant. Hence we used the following keywords and phrases to find the relevant papers.

Articles significantly related to the topic were searched using different keywords/search strings. For example: "ERP," "ERP critical failure factors," "ERP," "adoption of ERP," "ERP issues," "ERP abandoned," "ERP projects," "ERP success," "ERP failure," "ERP implementation," "ERP implementation failure," "cloud ERP implementation" and "cloud ERP implementation failure." Sometimes, articles found through keywords did not fully support the research topic. Hence we incorporate the Boolean operators (i.e. AND, OR and not) to combine more than one concept to make the search accurate and more effective.

Research papers/articles extraction criteria.

After compiling a sufficient amount of relevant literature for synthesis, one should extract from each document those elements of information that may assist in answering the questions being addressed (Cooper et al., 2009). Additionally, it helps filter gathered publications, as papers/articles that did not address the CFF of ERP deployment were removed. The above selection criteria were used to identify the most relevant papers/articles.

- Inclusion Criteria and Selection of the Studies

Following selection criteria were used to filter the relevant papers. We select only publications related to the factors of ERP implementation in the organisation and give a special focus to CFF during the implementation. The "time frame" limits established at the commencement of our investigation to select articles (i.e. 2000-2022) rigorously adhered. Only those publications that appeared in the English language were included, and selecting only papers published in indexed journals (including articles in press) and conference proceedings.

- Exclusion Criteria

Exclusion criteria are characteristics of prospective subjects that exclude them from inclusion in the research. For this study, the following criteria were used to exclude publications. The papers should not be entirely focused on the research objective (CFF in ERP implementation), the papers with a publication date prior to 2002 and articles from non-academic databases and duplicated publications in

Table 1: Inclusion and Exclusion criteria

several digital libraries were omitted. Papers were also discarded based on poor analysis, such as unpublished papers, editorials, and opinions. The redundant papers, discussion panels, instructional summaries, technical reports, article summaries, interviews, and poster sessions were included for exclusion criteria. Further, table 1 shows the inclusion and exclusion criteria of the collected articles from the database.

Criterion	Inclusion	Exclusion
Literature type	Indexed journal (Research Articles), and conference proceedings	Non-indexed journals, systematic review articles, chapters in the book
Language	English	Other languages
Indexes	Scopus, Social Science Citation Index (SSCI), Australian Business Deans Council (ABDC)List, and Education Research Abstracts Online(ERA).	Non-indexed journals

Data evaluation

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standard is used to conduct an SLR (Moher et al., 2009; Salih et al., 2021; Bellucci et al., 2022). However, we have modified it to make more suitable for a systematic qualitative review. We searched four major online databases (Emerald, Ebsco, Taylor & Francis, Google Scholer) using the above keywords in the identification stage. After collecting the list of references, researchers should screen each article further to determine whether there are any duplications to be removed. Hereafter, start by looking at the abstracts of the articles to see if they should be eligible. Then, look at the full texts to better

understand the quality. When it comes to the overall screening and eligibility procedure, many suggested matching the established review inclusion and exclusion criteria. The process by which papers are extracted according to inclusion and exclusion criteria is depicted in Figure 1 using a PRISMA flow diagram.

Previously discussed databases and keywords were employed to find literature in the defined period. The first phase involved identifying records via database searches. We considered only the first four pages of the database to extract the papers, and 523 research publications were identified during the search. After reading the title of the publications, 316 papers were excluded as they were irrelevant, and 207 papers were selected that are related

to the CFF of ERP adaptation. The second phase was record screening. During this stage, 22 duplicated publications were removed, and also another 101 records were removed after checking the abstract and the conclusion. All publications were independently assessed and skimmed through the full text to study the quality of the papers. Sixty-four publications were considered relevant and met the inclusion criteria. Finally, each shortlisted publication was evaluated for relevance

using the inclusion and exclusion criteria. Hence, we assessed the reported research's quality by assessing the rigour with which each publication's technique description was written. Finally, three articles did not satisfy the above inclusion criteria. Two were conference papers, three did not have prim resources, and one had a duplicated publication. Following this stage, a final corpus of 55 publications was selected for systematic review and shown in Figure 1

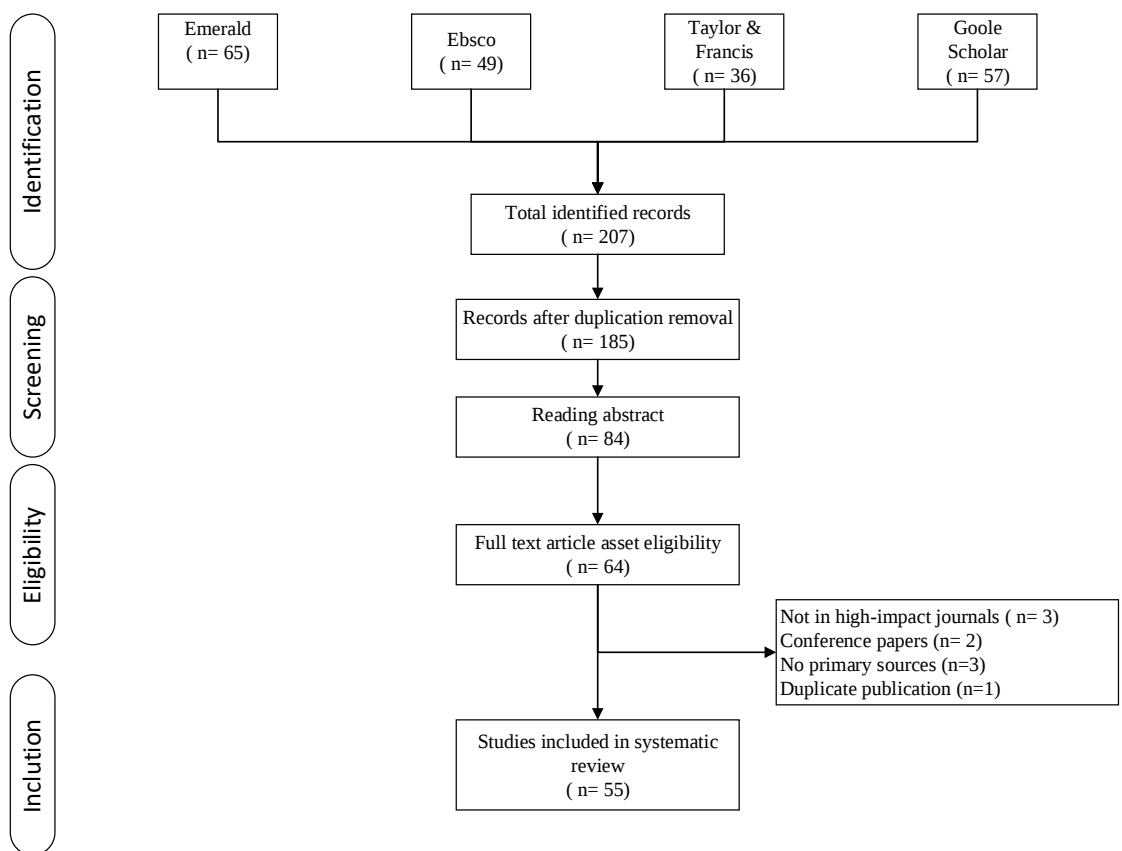


Figure 1: Flowchart of the selection process

After all following articles are extracted through the selection process. Details are given in Table 2.

Table 2: Papers/articles selected for review

Emerald	Ebsco	Taylor & Francis	Google Scholar	Total
17	6	13	19	55

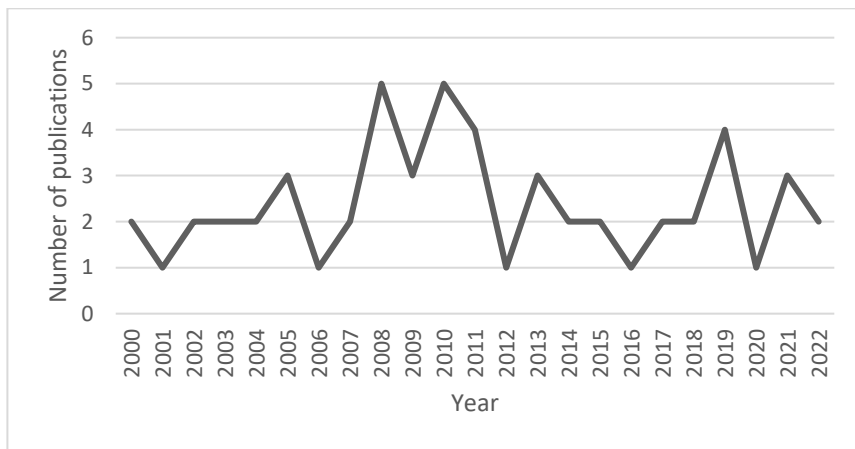


Figure 2: Publications distribution from 2000 to 2022.

Figure 2 is illustrated the distribution of CFF research publications. According to the exponential line of the publications, there are some variations. However, when considering the overall picture of the publications, we can identify a constant movement throughout the years.

After evaluating the published articles from 2000 to 2022, the following failure factors were identified. Details are distributed in Figure 2, and all publication details are presented in Table 3.

Table 3: Identified all FF which are used in selected publications from 2000 to 2022

Identified Failure Factors	
F1	Environmental pressures (national culture)
F2	Insufficient change management
F3	Inadequate infrastructure
F4	Inadequate expectations management
F5	Lack of ERP readiness assessment initiatives
F6	Mismatch between organisation culture and ERP system
F7	Mismatch between organisation structure and ERP system
F8	Mismatch between the system and business strategies
F9	Not clearly defined strategic goals
F10	Poor business process reengineering
F11	Lack of top management support
F12	Inadequate education and training
F13	Users are unwilling to use the ERP system
F14	Language barriers
F15	insufficient user involvement
F16	Ineffective communications system
F17	ERP system design & development issue
F18	Poor quality of testing
F19	Lack of process integration
F20	More customisation
F21	system less capability
F22	limited resources available
F23	Poor risk management

F24	Lack of project management performers	F30	Lack of technical capability for implementation
F25	Poor knowledge transfer	F31	Lack of technical support (consultant) from system vendors
F26	Data management issues	F32	Increased project completion time
F27	Lack of communication between organisation and consultants/ vendor	F33	Increased project cost
F28	integration conflicts between departments	F34	User dissatisfaction
F29	Lack of vendor performance	F35	Impact on the business performance

FINDINGS OF CRITICAL FAILURE FACTORS

Table 6 contains a hierarchical table that organises the failure factors discovered throughout the research synthesis and systematic review based on occurrences and frequency.

Table 6: Frequency of common ERP failure factors

#	Identified Failure Factors	Frequency	Ranking
F11	Lack of top management support	30	Ranked 1
F12	Inadequate education and training	27	Ranked 2
F8	Mismatch between the system and business strategies	22	Ranked 3
F24	Lack of project management performers	22	Ranked 4
F13	Users are unwilling to use the ERP system	19	Ranked 5
F5	Lack of ERP readiness assessment initiatives	17	Ranked 6
F6	Mismatch between organisation culture and ERP system	17	Ranked 7
F16	Ineffective communications system	17	Ranked 8
F17	ERP system design & development issue	17	Ranked 9
F27	Lack of communication between organisation and consultants/ vendor	17	Ranked 10
F31	Lack of technical support (consultant) from system vendors	16	Ranked 11
F15	insufficient user involvement	13	Ranked 12
F33	Increased project cost	13	Ranked 13
F2	Insufficient change management	12	Ranked 14
F21	system less capability	12	Ranked 15
F10	Poor business process reengineering	11	Ranked 16

F1	Environmental pressures (national culture)	10	Ranked 17
F28	integration conflicts between departments	10	Ranked 18
F29	Lack of vendor performance	10	Ranked 19
F19	Lack of process integration	8	Ranked 20
F25	Poor knowledge transfer	8	Ranked 21
F9	Not clearly defined strategic goals	7	Ranked 22
F20	More customisation	7	Ranked 23
F22	limited resources available	7	Ranked 24
F34	User dissatisfaction	7	Ranked 25
F35	Impact on the business performance	7	Ranked 26
F3	Inadequate infrastructure	6	Ranked 27
F4	Inadequate expectations management	6	Ranked 28
F26	Data management issues	6	Ranked 29
F18	Poor quality of testing	5	Ranked 30
F23	Poor risk management	5	Ranked 31
F32	Increased project completion time	5	Ranked 32
F7	Mismatch between organisation structure and ERP system	4	Ranked 33
F14	Language barriers	1	Ranked 34
F30	Lack of technical capability for implementation	1	Ranked 35

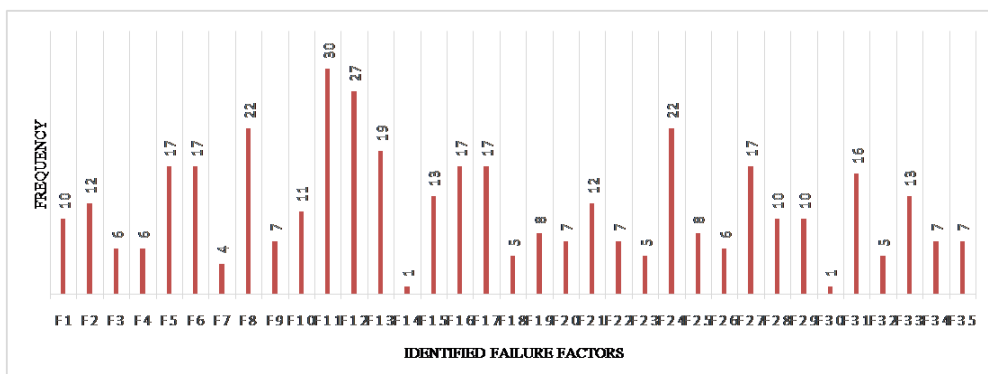


Figure 3: Summary of the collected data from the frequency table

The frequency of the failure factors identified is displayed in Tables 4 & 5. Higher frequency indicates that failure factors have been recorded frequently in previous research investigations. Consequently, it may be helpful to determine how serious/essential it is. The lack of support from top management is considered paramount for the adoption and implementation of ERP in organisations. According to a synthesis of numerous published studies, top management support (i.e. strategy/style/commitment) with the highest frequency of 30 was the most critical factor. Moreover, Inadequate education and training, mismatch between the system and business strategies, lack of project management performers, and users unwillingness to use the ERP system, etc. are other critical factors, respectively. A graphic view is depicted in Table 8. These identified factors that contribute to the failure of implementing an ERP system can be ranked from high to low based on frequency. An organisation can allocate its resources strategically when deploying an ERP system. One could hypothesise that failure factors with a higher ranking require more effort and analysis than those with a lower ranking. However, the following section contains a complete study and discussion of the top five failure factors (Ranked 1–5) identified to date, as shown in Figure 3.

ERP Failures Factors by Country

ERP is an innovative product to enhance the organisational business process. However, the organizational environment, which might change across countries due to cultural variations, has a significant impact on the effectiveness of innovation implementation (Singh & Dhir, 2021). According to Cowan-Sahadath (2010), positive characteristics of organizational, leadership and commitment-driven innovation implementation were shown to have performance implications in

developed economies. Furthermore, the literature reveals that implementation outcomes for similar organizations in various countries can differ. Also, culture

encompasses the customs, regulations, beliefs, and values impacted by national culture, language, religion, belief, and geography. Because these aspects are different in each country, the cultures in those countries are also different (Taras et al., 2011). However, individual moral and evaluation skills are influenced by the culture in which a person is born or educated (Alhirz & Sajeev, 2015). Morals are the values and beliefs individuals learn from culture and adapt to life. When implementing ERP, it is essential to consider the organisation's culture and its employees (Alhirz & Sajeev, 2015). Hirz (2018) found that the national culture significantly affects the way people perceive things. The culture can influence ERP adoption and implementation in two ways. First, it's influenced by the culture of the developers and the host (where ERP is applied). For example, ERP is developed in Western countries and implemented in Eastern countries (Hirz, 2018). According to Alhirz and Sajeev (2015), developing countries have a very high rate of failure when implementing ERP systems. However, Aldayel et al. (2011) emphasised that both developed and developing countries have a similar rate of ERP failure, and both types of countries face the same concern of ERP implementation failure.

Therefore, this study's second objective is to find any significant relationship between the CFF of ERP implementation and the countries. According to Table 2, we extracted 55 research publications from 2000 to 2022 and categorised those articles based on the published country. Details are distributed in Table 7.

Table 7: Distribution of Papers by Country

#	Country	Count
1	Morocco	1
2	Egypt	1
3	Indonesia	1
4	Norway	1
5	Pakistan	1
6	Romania	1
7	Saudi Arabia	1
8	South Africa	1
9	Sri Lanka	1
10	Tunisia	1
11	Turkey	1
12	Australia	2
13	Malaysia	2
14	Spain	2
15	Taiwan	2
16	Netherlands	3
17	Finland	3
18	Iran	4
19	China	5
20	India	5
21	UK	8
22	USA	8

Our objective is to analyse the country wise distribution of selected publications. We used bibliographic cooccurrence analysis of keywords using VOSviewer software. Figure 3. shows a cooccurrence heatmap of the published country. Table 7 provides quantitative data regarding the

publication base on the country. The number of dots associated with the countries in which publications are made by at least two or more articles and the node's size are defined by the number of publications made by each country.

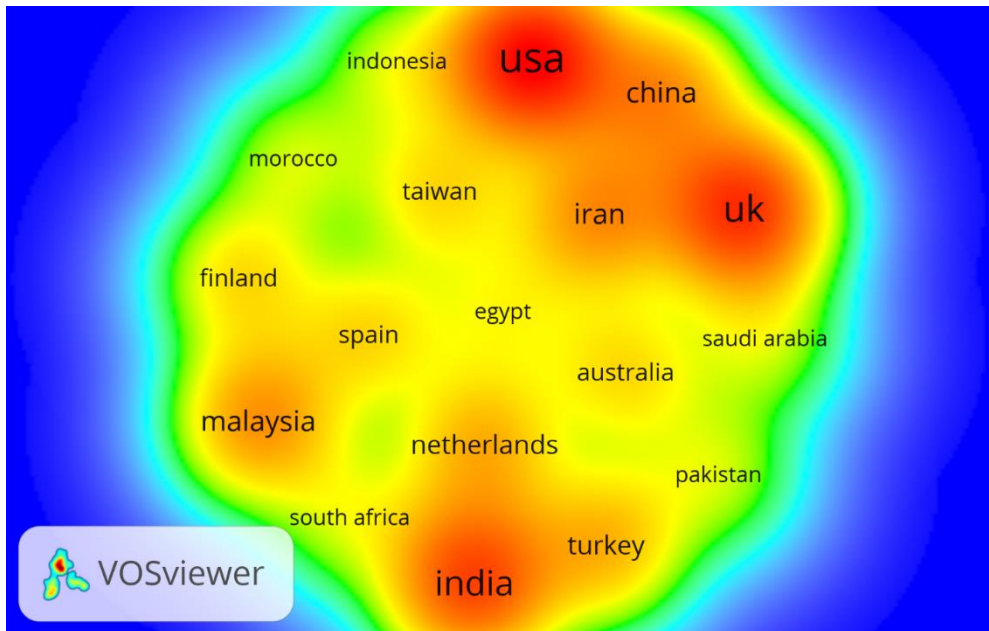


Figure 3: Cooccurrence analysis of CFF article publication countries

All countries could be categorised into three main clusters: North America, Europe and Asia. Table 8 provides all countries and publications details related to the clusters. Hence, the following section contains the complete study and

discussion of ERP implementation CFF in each cluster and critically evaluates the typical FF in all clusters.

Table 8: Publication distribution among the clusters

#	Clusters	Countries	Number of Publications
1	Asian	India, China, Iran, Taiwan, Malaysia, Turkey, Sri Lanka, Saudi Arabia, Indonesia, Pakistan	23
2	European	UK, Finland, Netherlands, Spain, Romania, Norway	18
3	North American	USA	8

DISCUSSION

Lack of top management support

The Lack of top management support was found to be the most CFF for ERP, with a maximum frequency of 30 (ranked 1). When technology becomes advanced, it reduces the related issues of the technology while maintaining social issues. A clear strategic direction and vision are required throughout the ERP project's life cycle (Buckhout et al., 1999; Li et al., 2017). Therefore, the success of a business's new technology adoption depends heavily on the support of its top management (Gupta et al., 2018). Also, the company's top management must back up the implementation of new systems and explain why they are necessary to its employees and customers. Additionally, the company's top management should have a deep understanding of its industry (Hamzah & Sobey, 2012). Moreover, Malik & Khan (2021) & Nah et al. (2003) showed that the top management should demonstrate concern for the projects and allocate the required resources for their implementation. The initial stage for an ERP project is for the top management to identify the stakeholders who have a vested interest in the project and then explain to them the expected level of involvement in order to complete the assigned tasks. ERP installation usually necessitates a radical transformation of existing work practices. As a result, top management is accountable for rigorous preparation for a smooth transformation process. Many studies on the introduction of ERP have highlighted how important the role of top management is (Shao et al., 2017). Also, Elbanna & Newman (2022) showed that the level of support provided by top management is a crucial factor in determining the impact, whether it is positive or negative. Therefore, a lack of support from top management may be a significant problem when adopting ERP systems across regions and countries

(Ngai et al., 2008). Moreover Sarker & Lee (2003) have a similar opinion that successful ERP system adoption necessitates a high level of commitment from top management. Because of this, the organization aiming to deploy ERP should seek the full support and commitment of top management in order to avoid ERP system failure in the current digital era. Thus, lack of top management support is a critical factor in ERP implementation.

Inadequate education and training

Inadequate education and training were found to be the second most frequently encountered CFF during the ERP implementation. As part of implementing the ERP strategy, system users should have adequate education and training. Throughout the implementation process, you should teach people about the benefits of the ERP system. In order to simplify the implementation process, the main business users and process owners should be involved (Malik & Khan, 2021). According to research that Koch (1996) conducted on ERP use, 30 to 40 per cent of workers were unable to use a new ERP system without obtaining the appropriate training. Hence, regular training is required for ERP systems, and organizations should make it possible for employees to improve their skill sets to meet changing business needs (Bingi et al., 1999; Bradley & Lee, 2007; Wingreen et al., 2014). Inadequate user training is a risk factor for ERP implementation. Hence, a lack of education and training might lead to ERP failures (Azouri et al., 2022; Plaza & Rohlf, 2008; Wingreen et al., 2014). At the beginning of the ERP project, the training program could be set up to convince ERP stakeholders of the benefits of ERP systems (Al-Jabri, 2015). Therefore, Malik & Khan (2021) suggests that during ERP implementation projects, management should provide a 360-degree learning environment that helps build a quality learning culture. Due

to this, inadequate education and training is a critical factor in ERP implementation.

Mismatch between the system and business strategies

The mismatch between the system and business strategies was found to be the third most frequent CFF during the ERP implementation. ERP implementation failures are more common in developing countries than in developed countries because ERP systems are built and designed for advanced technology and used in developed countries (Prasetyo et al., 2019a). Hence, ERP systems are made up of a collective of modules that cover different business tasks. Most of the time, the design of these modules is based on the best practices in the industry. This means that organizations have to change their business processes to work with the ERP system rather than the other way around (Davenport et al., 2004). However, aligning an organisation's business processes with the ERP system is not a simple task (Sancar Gozukara et al., 2022). ERP systems implementation could become unchallenged components of the organization whose workings are not well understood. When a system is "fully implemented," a lot of its complexity is hidden, making it harder to make changes (Granlund, 2009). Because of these factors, firms face the challenge of integrating systems and business processes perfectly (Dechow & Mouritsen, 2005). Hence, they were unable to succuss the ERP implementation without matching the system and the business strategy.

Lack of project management performers

The lack of project management performers was the fourth most important CFF. The project manager should be a strong individual with proper project management skills. He makes a comprehensive plan for the project, making sure to clearly identify the scope,

as well as the time and the budget. The project manager must act as a bridge between all stakeholders by managing meaningful relationships on both a political and psychological level (Malik & Khan, 2021). A further study conducted by SancarGozukara et al. (2022) & Chen & Lin (2009) found that the project management procedure primarily determines the success of a system. Poor risk management, scope creep, poor resource allocation, and vendor management are all creating issues during ERP system development and intertwining (Sancar Gozukara et al., 2022). Project management focuses on initiating, planning, implementing, and controlling different activities to deliver project milestones. After analysing 95 journal articles, it was found that project management, ERP team composition, competence, and business process review (BPR) are all critical factors during ERP implementation (Dezdar & Sulaiman, 2009). Moreover, Dezdar & Ainin (2011) contend a significant positive correlation exists between project management aspects and ERP implementation success. Hence without performing, the project manager is unable to succeed in the ERP implementation.

Users unwillingness to use the ERP system

Users unwillingness to use the ERP system was found to be the fifth most important CFF during the ERP implementation. According to Malik & Khan (2021), users are a very important component for the successful implementation of ERP. Hadhri et al. (2017) found that the primary obstacle is that the staff do not possess the required abilities to carry out day-to-day tasks on ERP systems. Also, ERP implementation teams are unable to work with system users who cannot transmit their organizational knowledge to ERP vendors, and those who lack expertise in ERP systems tend to focus on the most

basic activities, ignoring the system's complex features. (Sancar Gozukara et al., 2022). According to Christofi et al. (2013), in order for organizations to successfully implement ERPs, there may be a need for changes in people's work practices and their understanding of technology, as well as changes in ownership and control of business processes and policies that apply across the organization. Hence, organisations must have skilled & motivated system users with sufficient knowledge of ERP system use; they cannot depend entirely on ERP implementation teams and consultants from outside sources (Sancar Gozukara et al., 2022). Therefore, if users are unwilling to use the ERP system, it

contributes to the failure of ERP implementation.

After evaluating the top five CFFs, three factors can occur during the planning and implementation stage. Those are "Lack of top management support", "Mismatch between the system and business strategies", and "Lack of project management performers". "Inadequate education and training" and "Users unwillingness to use the ERP system" can be happened after the "go live" stage or operational stage. Hence there is a possibility of failing the ERP implementation during the planning and implementation stage as well as the operational stage

Identified CFF by each Continent countries

Table 9: Identified CFF in the continents

Identified Failure Factors		Asian Continent			European Continent			North American Continent		
		Rank	Frequency	%	Rank	Frequency	%	Rank	Frequency	%
F5	Lack of ERP readiness assessment initiatives							2	3	38
F6	Mismatch between organisation culture and ERP system	4	9	39						
F8	Mismatch between the system and business strategies				4	8	44	2	3	38
F10	Poor business process reengineering	5	8	35						
F11	Lack of top management support	1	15	65	2	10	56	2	3	38
F12	Inadequate education and training	3	13	57				1	5	63

F1 3	Users are unwilling to use the ERP system	3	9	5 0	2	3	38
F1 6	Ineffective communications system				2	3	38
F1 7	ERP system design & development issue				2	3	38
F2 4	Lack of project management performers	2	14	6 1			
F2 6	Data management issues				2	3	38
F2 7	Lack of communication between organisation and consultants/ vendor		1	11	6 1		
F2 9	Lack of vendor performance				2	3	38
F3 1	Lack of technical support (consultant) from system vendors		5	8	4 4		

According to Table 8, there are 23 publications found in the Asian cluster from ten countries. Based on their published literature, we selected the top 5 ERP implementation FF and provided in Table 9. During the current literature review, 65 per cent of such articles are explored, highlighting that the complexity of ERP implementation is primarily because of the lack of top management support. Similarly, lack of project management performers factor impact is 61 per cent, and inadequate education and training facto impact is 57 per cent during ERP implementation. However, the other two factors, such as mismatch between organisation culture and ERP system and poor business process reengineering, do not significantly impact ERP implementation in this cluster.

Eighteen research publications are carried out from seven countries in the European continent cluster. According to the research finding, the top 5 critical factors

that affect ERP implementation failure are detailed in Table 9. literature found in this cluster, the more influential FF for ERP implementation is the Lack of communication between the organisation and consultants/vendors, and its wattage is 61 per cent. Lack of top management support and users are unwilling to use the ERP system FFs are ranked second and third. Both factors are 56 per cent and 50 per cent, respectively, impacting ERP implementation. The other two FF factors moderately influence the ERP implementation failure in this cluster.

According to the selected FFs literature, there are eight numbers of publications found, which are by only USA authors. Nine FF are selected based on the above research articles, and details are given in Table 9.

From the current literature, 63 per cent of such articles are explored, highlighting that the complexity of ERP

implementation is primarily because of Inadequate education and training. But, found that other FFs do not significantly impact ERP implementation. However, these FFs are infused by 38 per cent to the ERP implementation.

CONCLUSION

Most organisations use an ERP system to enhance productivity. However, the high failure rates in implementation make it hard for organisations to get the anticipated benefits. Hence, both academics and practitioners have given considerable attention to ERP implementation and still have a significant research interest in it. Much of the previous literature on ERP implementation focused on the factors contributing to practices' successes. The main objective of this study is to identify the CFF during the ERP implementation by employing SLR. The previous two decayed ERP failure factors were studied for this purpose.

Based on the SLR, the most dominant CFF of the ERP implementation is the lack of top management support. Inadequate education and training, Mismatch between the system and business strategies, Lack of project management performers, and Users are unwilling to use the ERP system are other important CFFs during ERP implementation. According to the country-wise evaluation in Table 8, "Lack of top management support" is a CFF of the ERP implementation for all clusters. However, the more frequent impact for Asian countries, with a moderate impact for European countries and less for North American countries. Also, "Inadequate education and training" is a major CFF for Asian and North American countries during ERP implementation projects. Similarly, "Mismatch between the system and business strategies" and "Users are unwilling to use the ERP system" are

common CFFs for European and North American countries. Both CFFs are moderately influenced during ERP implementation in these countries.

Through this study, we identified the most significant failure factors during ERP implementation and further elaborated on those factors at the country level. Hence, when adapting the ERP system to the organisation, this research is a supplement to the top management to play a critical role in the success of the project from the decision-making stage and also needs to consider the above CFF during implementation.

Factors like business type, the organisation's culture, technological aspects and the environmental condition of the organization have significantly changed the demand for adopting and implementing such enterprise systems. Even though there has been sufficient research on ERP implementation methods, how to succeed the ERP implementation, issues/challenges that organisations face, and benefits gained. But more research are still needed to understand the complexity of the success/failure of ERP. In this review, the most significant CFFs were those with high rankings (1–5). It necessitates additional study to determine the reasons for these problems and the best ways to solve them. Also, there are several potential gaps which can be further explored. Most ERP implementation research publications are conducted in developed countries. We believe there is still room for future validation to conduct the research for developing countries, as well as can be done the same systematic literature review for developing countries to determine potential outcomes. Moreover, they can expand their systematic literature review based on other countries as well as continents. As we move into the twenty-first century, organisations must adapt to the speed and rapid technological revolution that has

never been seen before, such as artificial intelligence (AI), cloud computing, IoT, and Big data, among others, provide revolutionary solutions for businesses. However, current technology awareness of the top management and the employees are far behind due to inadequate education

and training. Therefore, there can be different CFFs when implementing the ERP systems, such as technological platforms. Hence, future research can focus on what CFF may arise when adopting ERPs with such advanced technologies.

Table 4: FF findings of past research papers from 2000 to 2022

Identified Failure Factors	Markus, Axline, Petrie & Tanis (2000) Netherlands	Markus, Axline, Petrie & Tanis (2000) China	Chen (2001) USA	Akkermans & van Helden (2002) Netherlands	Balsmeier & Nagar (2002) India	Umble, Haft, & et al. (2003) USA	Barker & Frolick (2003) USA	Yusuf & Gunasekaran (2004) UK	Tsai, Chien, Fan & Cheng (2004) Taiwan	Gargeya & Brady (2005) USA	Xue, Liang, Boulton & Snyder (2005) China	Sharif, Irani & Love (2005) UK	Raj Singla & Goyal (2006) India	Martin & Huq (2007) USA	Kholeif, Abdel-Kader & Sherer (2007) UK	Lotta & Olli-Pekka (2008) Finland	Allen (2008) USA	El Sawah, Abd El & Hassan Rasmy (2008) Egypt	Lui & Chan (2008) China	Kouki, Pellerin & Poulin (2008) Tunisia	Noudoostbeni, Yasin & Jenatabadi (2009) Malaysia	Chung, Skibniewski & Kwak (2009) USA	Iskanius (2009) Finland	Hawari & Heeks (2010) UK	Wickramasinghe & Gunawardena (2010) Sri Lanka	Maguire, Ojiako & Said (2010) UK	Ganesh & Mehta (2010) India	Momoh, Roy & Shehab (2010) UK			
F1		✓					✓							✓	✓						✓	✓									
F2		✓				✓																	✓			✓			✓		
F3									✓													✓			✓						
F4				✓						✓													✓					✓			
F5	✓		✓	✓										✓								✓					✓		✓		
F6	✓	✓		✓	✓			✓		✓	✓							✓	✓	✓		✓				✓					
F7					✓													✓			✓	✓							✓		
F8	✓		✓		✓			✓			✓	✓						✓	✓		✓	✓			✓			✓			
F9			✓	✓		✓												✓													
F10	✓										✓		✓													✓					
F11	✓	✓		✓		✓	✓		✓		✓				✓		✓				✓	✓		✓		✓	✓	✓	✓		
F12			✓	✓		✓	✓	✓	✓		✓			✓			✓			✓	✓		✓		✓	✓	✓	✓	✓		
F13	✓	✓	✓	✓												✓	✓							✓		✓	✓	✓			
F14											✓																				
F15				✓				✓										✓		✓				✓		✓					
F16	✓			✓			✓						✓	✓		✓	✓		✓			✓				✓			✓		
F17	✓	✓	✓		✓							✓	✓							✓		✓			✓						
F18		✓														✓				✓								✓			
F19	✓	✓										✓									✓										
F20	✓														✓										✓			✓	✓		
F21	✓		✓	✓		✓			✓										✓					✓				✓	✓		
F22																	✓							✓							
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F24	✓	✓				✓			✓						✓				✓	✓	✓		✓			✓		✓			
F25										✓		✓										✓						✓			
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F34	✓			✓																					✓				✓		
F35	✓	✓										✓													✓				✓		

(Continued)

Table 5: FF findings of past research papers from 2000 to 2022

Identified Failure Factors	Pan, Baptista Nunes & Chao Peng (2011) UK	Venugopal & Suryaparakasa Rao (2011) India	Li (2011) China	Shirouyehzad, Dabestani & Badakhshian (2011) Iran	Salmeron & Lopez (2012) Spain	Garg & Garg (2013) India	Zeng, Skibniewski & Mirosław (2013) USA	Christofi, Nunes, Chao Peng & Lin (2013) UK	Lopez & Salmeron (2014) Spain	Hustad & Olsen (2014) Norway	Bitsini (2015) South Africa	Abukhader (2015) Saudi Arabia	Zare Ravasan & Mansouri (2016) Iran	Jagoda & Samaranyake (2017) Australia	Leu & Lee (2017) Taiwan	Chadhar & Daneshgar (2018) Australia	Hamdi & Abouabdellah (2018) Morocco	van Roekel & van der Steen (2019) Netherlands	Zong, Wu & Feng (2019) China	Prasetyo, Lubis, Witjaksono & Azizah (2019) Indonesia	Stancu & Ana-Maria Ramona (2019) Romania	Zendeher, el, Azar, Kazerooni & Yang (2020) Iran	Malik & Khan (2021) Pakistan	Khalil & Hassan Mohammed (2021) Malaysia	Ayani, Abbasi and Moulai (2021)	Senem, Bedir & Cagatay (2022) Turkey	Elbanna & Newman (2022) Finland	
F1			✓								✓						✓								✓			
F2						✓		✓									✓			✓			✓				✓	
F3	✓		✓		✓						✓																✓	
F4			✓				✓																					
F5		✓		✓			✓	✓		✓				✓	✓	✓	✓					✓					✓	
F6				✓							✓						✓			✓		✓						
F7																						✓						
F8				✓	✓		✓		✓		✓			✓			✓		✓	✓	✓							
F9														✓						✓		✓						
F10				✓	✓								✓		✓						✓			✓	✓			
F11		✓	✓	✓				✓		✓		✓	✓			✓	✓			✓			✓	✓	✓	✓		✓
F12	✓		✓	✓			✓					✓		✓	✓	✓	✓			✓		✓	✓	✓	✓	✓		
F13	✓				✓		✓	✓		✓		✓			✓	✓	✓										✓	
F14																												
F15	✓						✓													✓		✓				✓	✓	
F16				✓					✓					✓		✓	✓			✓								
F17		✓		✓			✓	✓							✓	✓	✓		✓	✓	✓							
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F32				✓			✓								✓													
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F34				✓	✓		✓																					
F35					✓		✓																					

REFERENCES

- Alaskari, O., Pinedo-Cuenca, R., & Ahmad, M. M. (2019). Framework for Selection of ERP System: Case Study. *Procedia Manufacturing*, 38, 69–75.
- Aldayel, A. I., Aldayel, M. S., & Al-Mudimigh, A. S. (2011). The critical success factors of ERP implementation in higher education in Saudi Arabia: A case study. *Journal of Information Technology & Economic Development*, 2(2).
- Alhirz, H., & Sajeev, A. S. M. (2015). Do cultural dimensions differentiate ERP acceptance? A study in the context of Saudi Arabia. *Information Technology & People*.
- Al-Jabri, I. M. (2015). Antecedents of user satisfaction with ERP systems: Mediation analyses. *Kybernetes*, 44(1), 107–123.
<https://doi.org/10.1108/K-05-2014-0101>
- Aloini, D., Dulmin, R., & Mininno, V. (2007). Risk management in ERP project introduction: Review of the literature. *Information & Management*, 44(6), 547–567.
- Alsayat, M., & Alenezi, M. (2018). ERP Implementation Failures in Saudi Arabia: Key Findings. 14.
- Alzahrani, A., Mahmud, I., Thurasamy, R., Alfarraj, O., & Alwadain, A. (2021). End users' resistance behaviour paradigm in pre-deployment stage of ERP systems: Evidence from Bangladeshi manufacturing industry. *Business Process Management Journal*, 27(5), 1496–1521.
<https://doi.org/10.1108/BPMJ-08-2019-0350>
- Amid, A., Moalagh, M., & Zare Ravasan, A. (2012). Identification and classification of ERP critical failure factors in Iranian industries. *Information Systems*, 37(3), Article 3.
<https://doi.org/10.1016/j.is.2011.10.010>
- Azouri, M., Harb, A., Chaaya, L. B., & Akoury, C. (2022). Strategic assessment of factors that create a resistance to change during the implementation of Enterprise Resource Planning (ERP) systems. The case of Lebanese organizations. *Arab Economic and Business Journal*, 14(2), 18–30.
- Baker, J. D. (2016). The Purpose, Process, and Methods of Writing a Literature Review. *AORN Journal*, 103(3), 265–269.
<https://doi.org/10.1016/j.aorn.2016.01.016>
- Bellucci, M., Cesa Bianchi, D., & Manetti, G. (2022). Blockchain in accounting practice and research: Systematic literature review. *Meditari Accountancy Research*, 30(7), 121–146.
<https://doi.org/10.1108/MEDAR-10-2021-1477>
- Bingi, P., Sharma, M. K., & Godla, J. K. (1999). Critical Issues Affecting an ERP Implementation. *Information Systems Management*, 16(3), 7–14.
<https://doi.org/10.1201/1078/43197.16.3.19990601/31310.2>
- Bradley, J., & Lee, C. C. (2007). ERP training and user satisfaction: A case study. *International Journal of Enterprise Information Systems (IJEIS)*, 3(4), 33–50.
- Buckhout, S., Frey, E., & Nemec, J. (1999). Making ERP Succeed: Turning Fear into Promise Strategy and Business. 2nd Quarter.

- Calogero, B. (2000). Who is to blame for ERP failure? Sun Server Magazine, 1–4.
- Cereola, S. (2006). The Performance Effects of Latent Factors on Assimilation of Commercial Open-Source ERP Software on Small-Medium Enterprises. 127.
- Chakravorty, S. S., Dulaney, R. E., & Franza, R. M. (2016). ERP implementation failures: A case study and analysis. *International Journal of Business Information Systems*, 21(4), Article 4. <https://doi.org/10.1504/IJBIS.2016.075256>
- Chen, S.-G., & Lin, Y.-K. (2009). On performance evaluation of ERP systems with fuzzy mathematics. *Expert Systems with Applications*, 36(3), 6362–6367. <https://doi.org/10.1016/j.eswa.2008.08.078>
- Christofi, M., Nunes, M., Chao Peng, G., & Lin, A. (2013). Towards ERP success in SMEs through business process review prior to implementation. *Journal of Systems and Information Technology*, 15(4), 304–323. <https://doi.org/10.1108/JSIT-06-2013-0021>
- Cooper, H. M., Hedges, L. V., & Valentine, J. C. (Eds.). (2009). *The handbook of research synthesis and meta-analysis* (2nd ed). Russell Sage Foundation.
- Cowan-Sahadath, K. (2010). Business transformation: Leadership, integration and innovation—A case study. *International Journal of Project Management*, 28(4), 395–404.
- Davenport, T. H., Harris, J. G., & Cantrell, S. (2004). Enterprise systems and ongoing process change. *Business Process Management Journal*, 10(1), 16–26. <https://doi.org/10.1108/14637150410518301>
- Dechow, N., & Mouritsen, J. (2005). Enterprise resource planning systems, management control and the quest for integration. *Accounting, Organizations and Society*, 30(7–8), 691–733.
- Dezdar, S., & Ainin, S. (2011). Examining ERP implementation success from a project environment perspective. *Business Process Management Journal*, 17(6), 919–939. <https://doi.org/10.1108/1463715111182693>
- Dezdar, S., & Sulaiman, A. (2009). Successful enterprise resource planning implementation: Taxonomy of critical factors. *Industrial Management & Data Systems*, 109(8), 1037–1052. <https://doi.org/10.1108/02635570910991283>
- Elbanna, A., & Newman, M. (2022). The bright side and the dark side of top management support in Digital Transformaion—A hermeneutical reading. *Technological Forecasting and Social Change*, 175, 121411.
- Gargeya, V. B., & Brady, C. (2005). Success and failure factors of adopting SAP in ERP system implementation. *Business Process Management Journal*, 11(5), Article 5. <https://doi.org/10.1108/14637150510619858>
- Granlund, M. (2009). On the interface between accounting and modern information technology.
- Gupta, S., Misra, S. C., Kock, N., & Roubaud, D. (2018). Organizational, technological and extrinsic factors in

- the implementation of cloud ERP in SMEs. *Journal of Organizational Change Management*.
- Hadhri, W., Maherzi, T., & Youssef, A. B. (2017). E-Skills and the Adoption of Cloud Computing. *Thunderbird International Business Review*, 59(5), 635–645.
- Hamzah, M., & Sobey, A. (2012). The use of business metadata to support decision-making processes. *International Journal of Innovation, Management and Technology*, 3(4), 449.
- Hawari, A., & Heeks, R. (2010). Explaining ERP failure in a developing country: A Jordanian case study. *Journal of Enterprise Information Management*.
- Hirz, D. H. A. (2018). Perceived Individual Cultural Values and Erp Users: The Case of Saudi Arabia. *International Journal of Social Sciences and Humanities Invention*, 5(3), Article 3. <https://doi.org/10.18535/ijsshi/v5i3.06>
- Huang, T., & Yasuda, K. (2016). Comprehensive review of literature survey articles on ERP. *Business Process Management Journal*, 22(1), 2–32. <https://doi.org/10.1108/BPMJ-12-2014-0122>
- Huang, Z. (2010). A compilation research of ERP implementation critical success factors. *Issues in Information Systems*, 11(1), 507–512.
- Huang, Z., & Palvia, P. (2001). ERP implementation issues in advanced and developing countries. *Business Process Management Journal*, 7(3), 276–284. <https://doi.org/10.1108/14637150110392773>
- Iskanius, P. (2009). The ERP Project Risk Assessment – A case study. 6.
- Kähkönen, T., & Smolander, K. (2013). ERP Integration.
- Kitchenham, B. A., Brereton, P., Turner, M., Niazi, M. K., Linkman, S., Pretorius, R., & Budgen, D. (2010). Refining the systematic literature review process—Two participant-observer case studies. *Empirical Software Engineering*, 15(6), 618–653.
- Kitchenham, B., & Charters, S. (2007). Guidelines for performing systematic literature reviews in software engineering.
- Koch, C. (1996). Surprise, surprise. *CIO Magazine*, June.
- Leu, J.-D., & Lee, L. J.-H. (2017). Enterprise resource planning (ERP) implementation using the value engineering methodology and Six Sigma tools. *Enterprise Information Systems*, 11(8), 1243–1261. <https://doi.org/10.1080/17517575.2016.1215537>
- Li, H.-J., Chang, S.-I., & Yen, D. C. (2017). Investigating CSFs for the life cycle of ERP system from the perspective of IT governance. *Computer Standards & Interfaces*, 50, 269–279.
- Mabert, V. A., Soni, A., & Venkataramanan, M. A. (2000). Enterprise resource planning survey of US manufacturing firms. *Production and Inventory Management Journal*, 41(2), Article 2.
- Mahmood, F., Khan, A. Z., & Bokhari, R. H. (2019a). ERP issues and challenges: A research synthesis. *Kybernetes*, 49(3), 629–659. <https://doi.org/10.1108/K-12-2018-0699>
- Mahmood, F., Khan, A. Z., & Bokhari, R. H. (2019b). ERP issues and challenges: A research synthesis.

- Kybernetes, 49(3), 629–659.
<https://doi.org/10.1108/K-12-2018-0699>
- Malik, M. O., & Khan, N. (2021). Analysis of ERP implementation to develop a strategy for its success in developing countries. *Production Planning & Control*, 32(12), 1020–1035.
<https://doi.org/10.1080/09537287.2020.1784481>
- Moalagh, M., & Ravasan, A. Z. (2013). Developing a practical framework for assessing ERP post-implementation success using fuzzy analytic network process. *International Journal of Production Research*, 51(4), Article 4.
<https://doi.org/10.1080/00207543.2012.698318>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, T. P. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLOS Medicine*, 6(7), e1000097.
<https://doi.org/10.1371/journal.pmed.1000097>
- Nagpal, S., Khatri, S. K., & Kumar, A. (2015). Comparative study of ERP implementation strategies. 2015 Long Island Systems, Applications and Technology, 1–9.
<https://doi.org/10.1109/LISAT.2015.7160177>
- Nah, F. F.-H., Zuckweiler, K. M., & Lee-Shang Lau, J. (2003). ERP Implementation: Chief Information Officers' Perceptions of Critical Success Factors. *International Journal of Human-Computer Interaction*, 16(1), 5–22.
https://doi.org/10.1207/S15327590IJHC1601_2
- Ngai, E. W., Law, C. C., & Wat, F. K. (2008). Examining the critical success factors in the adoption of enterprise resource planning. *Computers in Industry*, 59(6), 548–564.
- Pan, G., Hackney, R., & Pan, S. L. (2008). Information Systems implementation failure: Insights from prism. *International Journal of Information Management*, 28(4), 259–269.
- Peslak, A. R. (2006). Enterprise resource planning success: An exploratory study of the financial executive perspective. *Industrial Management & Data Systems*.
- Plaza, M., & Rohlf, K. (2008). Learning and performance in ERP implementation projects: A learning-curve model for analyzing and managing consulting costs. *International Journal of Production Economics*, 115(1), 72–85.
- Prasetyo, S. J., Lubis, M., Witjaksono, R. W., & Azizah, A. H. (2019a). Critical Failure Factors in Enterprise Resource Planning (ERP) Implementation: Case Study of PT. Toyota Astra Motor Indonesia. 2019 Fourth International Conference on Informatics and Computing (ICIC), 1–5.
- Prasetyo, S. J., Lubis, M., Witjaksono, R. W., & Azizah, A. H. (2019b). Critical Failure Factors in Enterprise Resource Planning (ERP) Implementation: Case Study of PT. Toyota Astra Motor Indonesia. 2019 Fourth International Conference on Informatics and Computing (ICIC), 1–5.
<https://doi.org/10.1109/ICIC47613.2019.8985720>
- Ramesh, N., & Delen, D. (2021). Digital Transformation: How to Beat the 90% Failure Rate? *IEEE Engineering Management Review*, 49(3), 22–25.

- Salih, S., Hamdan, M., Abdelmaboud, A., Abdelaziz, A., Abdelsalam, S., Althobaiti, M. M., Cheikhrouhou, O., Hamam, H., & Alotaibi, F. (2021). Prioritising Organisational Factors Impacting Cloud ERP Adoption and the Critical Issues Related to Security, Usability, and Vendors: A Systematic Literature Review. *Sensors*, 21(24), 8391. <https://doi.org/10.3390/s21248391>
- Sancar Gozukara, S., Tekinerdogan, B., & Catal, C. (2022). Obstacles of On-Premise Enterprise Resource Planning Systems and Solution Directions. *Journal of Computer Information Systems*, 62(1), 141–152. <https://doi.org/10.1080/08874417.2020.1739579>
- Santos, S. C., Santana, C., & Elhimas, J. M. C. (2018). Critical success factors for ERP implementation in sector public: An analysis based on literature and a real case.
- Sarker, S., & Lee, A. S. (2003). Using a case study to test the role of three key social enablers in ERP implementation. *Information & Management*, 40(8), 813–829.
- Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research methods for business students* (Seventh). Nueva York: Pearson Education.
- Saxena, D., & McDonagh, J. (2019). Evaluating ERP Implementations: The Case for a Lifecycle-based Interpretive Approach. *Electronic Journal of Information Systems Evaluation*, 22(1), Article 1. <https://academic-publishing.org/index.php/ejise/article/view/126>
- Shao, Z., Feng, Y., & Hu, Q. (2017). Impact of top management leadership styles on ERP assimilation and the role of organizational learning. *Information & Management*, 54(7), 902–919.
- Shore, B. (2005). Failure rates in global IS projects and the leadership challenge. Taylor & Francis.
- Singh, S., & Dhir, S. (2021). Innovation implementation in Asia-Pacific countries: A review and research agenda. *Asia Pacific Business Review*, 27. <https://doi.org/10.1080/13602381.2021.1859748>
- Subramoniam, S., Tounsi, M., & Krishnankutty, K. V. (2009). The role of BPR in the implementation of ERP systems. *Business Process Management Journal*, 15(5), 653–668. <https://doi.org/10.1108/1463715091087892>
- Taras, V., Steel, P., & Kirkman, B. L. (2011). Three decades of research on national culture in the workplace: Do the differences still make a difference. *Organizational Dynamics*, 40(3), 189–198.
- Tarigan, Z. J. H., Siagian, H., & Jie, F. (2020). The role of top management commitment to enhancing the competitive advantage through ERP integration and purchasing strategy. *International Journal of Enterprise Information Systems (IJEIS)*, 16(1), 53–68.
- Venugopal, C., & Suryaprakasa, R. K. (2011). Learning from a failed ERP implementation: A case study research. *International Journal of Managing Projects in Business*, 4(4), 596–615. <https://doi.org/10.1108/1753837111164038>
- Wang, E. T., Lin, C. C.-L., Jiang, J. J., & Klein, G. (2007). Improving enterprise resource planning (ERP) fit to organizational process through

- knowledge transfer. *International Journal of Information Management*, 27(3), 200–212.
- Willis, T. H., & Willis-Brown, A. H. (2002). Extending the value of ERP. *Industrial Management & Data Systems*.
- Wingreen, S. C., Mahdavian, M., & Gupta, H. (2014). An investigation into enterprise resource planning implementation success: Evidence from private and public sector organizations.
- Xiao, Y., & Watson, M. (2019). Guidance on Conducting a Systematic Literature Review. *Journal of Planning Education and Research*, 39(1), 93–112. <https://doi.org/10.1177/0739456X17723971>
- Xue, Y., Liang, H., Boulton, W. R., & Snyder, C. A. (2005). ERP implementation failures in China: Case studies with implications for ERP vendors. *International Journal of Production Economics*, 97(3), 279–295.
- Zare Ravasan, A., & Mansouri, T. (2016). A dynamic ERP critical failure factors modelling with FCM throughout project lifecycle phases. *Production Planning & Control*, 27(2), 65–82. <https://doi.org/10.1080/09537287.2015.1064551>