

ENTERPRISE RESOURCE PLANNING: SYSTEMATIC LITERATURE REVIEW

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Abstract

Research on Enterprise Resource Planning is very interesting to do with the development of technology globally. Through a systematic literature review, an analysis is carried out related to the year of research, countries, topics discussed, theories used, and research methods. Thirty-five papers from the Science Direct, Pro Quest, Springer Link, and Emerald Insight databases were used for analysis. The analysis steps used the PRISMA method. From the analysis, it was found that ERP research has been increasing in recent years. The most widely discussed themes are the key to successful ERP implementation and the role of ERP in improving organizational performance. Finally, this study has limitations and suggests areas for future research.

Keywords: *ERP, Enterprise Resource Planning, Systematic Literature Review, Technology, Research Gap*

INTRODUCTION

The role of ERP is very important in the era of globalization. For large companies, ERP has a role as a tool to integrate businesses worldwide. For small companies, ERP has a role in helping to use operational costs efficiently (Sameh, 2025). Enterprise Resource Planning systems help businesses access information faster and more accurately (Samah, 2025). Business partners, shareholders, clients, vendors, and other stakeholders are helped by this system (Jaradat, 2019). Digital technology has proven its resilience to the COVID-19 pandemic (Jaradat, 2019). At a time when businesses are facing difficult pressures, the demand for efficient cost use is overcome by using the Enterprise Resource Planning system (Jaradat, 2019).

Implementing ERP in a company requires a large investment. In some companies, it was noted that at the beginning of ERP implementation, the IT budget increased by 24%, while profits actually fell by 14% (Charonwong, 2024). ERP implementation also presents major challenges. These challenges include lack of training, resistance to change, poor performance, and difficulty integrating with existing systems (Nakayama, 2023). Several studies on ERP implementation have been conducted in several countries and several industries, such as Samah et.al., (2025), Charonwong et.al.(2024), Nakayama et.al.(2023), Elbardan et.al.(2023), Shajrawi et.al. (2022), Jaradat, et.al (2019), and Bart et.al. (2018). The methods, research objects, and research results vary. This study attempts to analyze ERP implementation using the Systematic Literature Review approach. So that a comprehensive view of ERP implementation can be obtained.

This study attempts to answer the following research questions:

RQ1: How is the current state of research on Enterprise Resource Planning implementation?

RQ2: What topics are discussed in research on Enterprise Resource Planning implementation?

In this study, section 2 discusses the literature review, section 3 discusses the methodology, section 4 discusses the results and discussion, and section 5 discusses the Conclusion

LITERATURE REVIEW

In the 1960s, the Enterprise Resource Planning system was first developed through inventory management software. In the 1970s, the material requirements planning system (MRP I) was developed. In the 1980s, the manufacturing requirements planning system (MRP II) was developed. In the 1990s, the integration of MRP I and MRP II was carried out, resulting in the emergence of the ERP system (Cemal Akturk, 2021). Enterprise Resource Planning System is a tool that allows companies to plan and control within an organization. This system is a company

information system consisting of several subsystems. Through the ERP system, companies are able to manage resources and business processes efficiently (Barth, 2018). ERP systems are also capable of integrating all business processes across all departments in the organization (Shajrawi, 2018). Generally, an ERP system consists of several modules. These modules include supply chain, material, accounting, manufacturing, and human resources modules (Akturk, 2021). Ultimately, the ERP system will encourage consistent, timely, and reliable decision making (Barth, 2018).

Today's environment is very dynamic and contains many threats such as global technological advances, competitive economic environments, and uncertainty. By adopting an ERP system, organizations become more agile and flexible (Shajrawi, 2018). ERP implementation in an organization consists of four phases. The first phase is the software selection phase based on the organization's business processes. The second phase is the system configuration to suit the needs of the organization. The third phase is the system testing phase. The fourth phase is the usage, maintenance, and updating phase (Barth, 2018).

ERP system implementation is very challenging and dynamic (Barth, 2018). The success of ERP implementation is determined by human factors. Including demographics, perceptions, and attitudes towards ERP acceptance (Tavakoli, 2022). In the early stages, top management commitment is the most important thing. Next is user acceptance of the new system. The next factor is corporate culture, shared values in the organization, and shared goals. Furthermore, ERP-related communication that is established between members of the organization is one of the keys to success. What cannot be ignored is the ERP project management activity. As well as the ability to adapt to effective system changes. The next additional success factor is a leader who has a good reputation and is able to influence the importance of change in the organization through ERP. In addition, good communication with the software system vendor that helps with implementation is also another determining factor (Barth, 2018).

Good communication with vendors or software consultants plays an equally important role. According to the 2021 ERP development report, it was stated that organizations that used software consultant services during ERP implementation were recorded at 81%. Meanwhile, organizations that used consultant services after ERP implementation were recorded at 19%. Meanwhile, organizations that stated satisfaction with consultant services were around 44%. Meanwhile, those who stated dissatisfaction were around 56%. The increase in dissatisfaction was recorded at 13% compared to the previous year (Bawack, 2022).

Efforts to overcome this are through the selection of adequate quality ERP consultants. The quality of consultants includes consultant expertise, training provided by consultants to clients, including communication plays an important role. With high quality consultants, the ability to configure ERP according to organizational needs will be better (Bawack, 2022).

METHOD

The method in this study uses the PRISMA method, as explained by Martini et.al. (Van, 2024). The first step is to search for article titles, abstracts, and keywords from the Science Direct, Pro Quest, Springer Link, and Emerald Insight database. With the keyword "ERP" it produces 15,737 articles (April 2025). Next, we filtered by journal subscription criteria, and returned 11,590 articles.

Next, we filter again, with the following criteria:

- Language : English
- Article Type : Research Articles
- Range data : 2016-2025
- Subject area : business, management, and accounting
- Access type : open access and open archive
- Publication title: International journal of AIS, Journal of business research, Journal of strategic information system, journal of accounting education, internasional jounal mangement information.

These criteria are in accordance with those stated by (Van et.al., 2024). The remaining results are 55 articles. Furthermore, in the screening stage, we filtered 55 articles and made several criteria to exclude articles as follows:

- The article doesn't discuss focusing on ERP.
- Unclear result and analysis
- Literature Review

and we obtained 35 articles for further analysis (Figure 1).

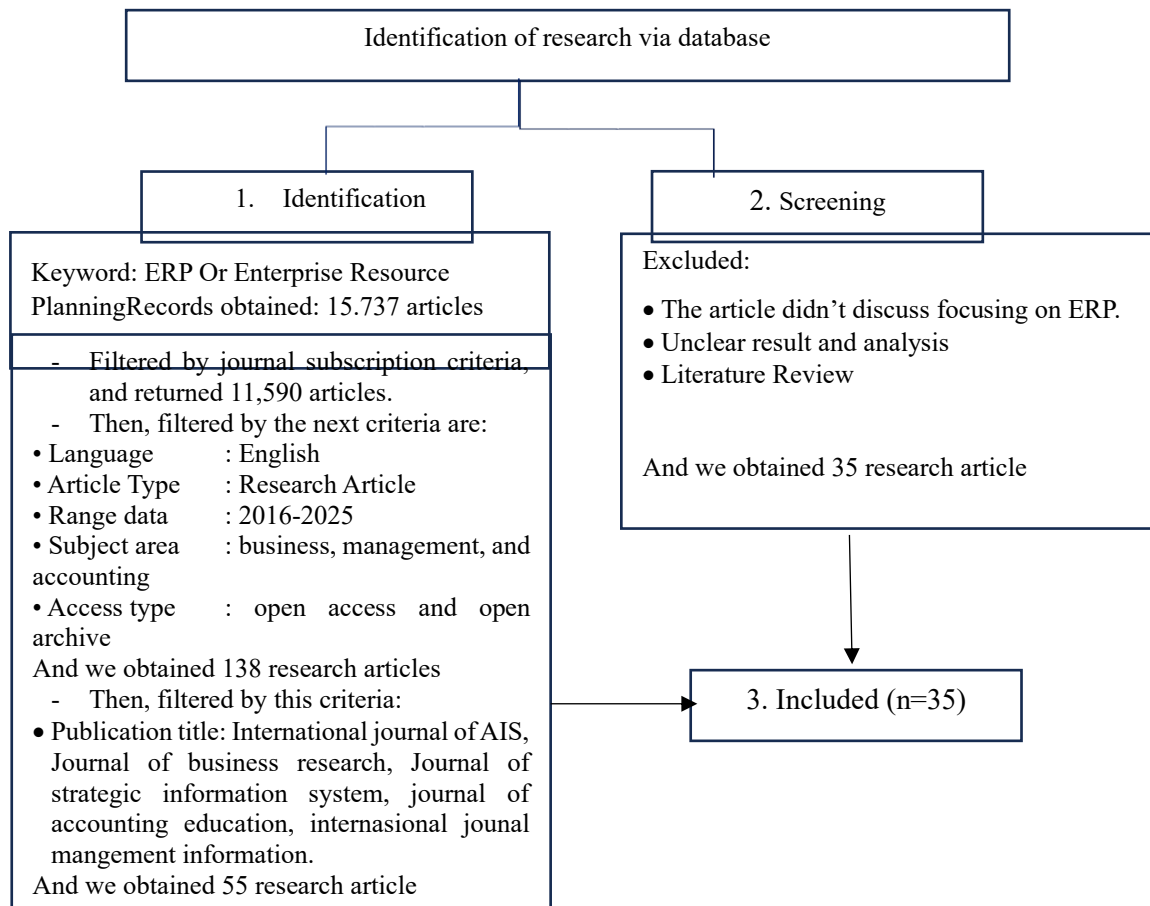


Figure. 1

RESULTS AND DISCUSSION

As recommended by Van et.al. (2024), we analyzed articles based on publication by year, publication by journal, publication by country, main findings, theories and research methods used. The results of the SLR analysis with the above articles are as follows:

a. Publication by Year

Year	Author (s)	Number of Publication
2016	Hong et.al (2016)	1
2017	Oghazi et.al (2017)	1
2018	Barth et.al (2018)	1
2019	Sigala et.al (2019); Alsharari (2019)	1
2021	Aktürk (2021)	1
2022	Shajrawi and Aburub (2022); Tavakoli et.al (2022); Bawack et.al (2022); Almajali et.al (2022); Thottoli et.al (2022); Almajali et.al (2022)	6
2023	Nakayama et.al (2023); Elbardan et.al (2023); Saiah et.al (2023); Mahmood et.al (2023); Afifa and Saleh (2023); Sudhaman et.al (2023); Subhani et.al (2023); Sastrodiharjo et.al (2023)	8

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2024	Charoenwong <i>et.al</i> (2024); Jacobs and Kabaso (2024); Davidson <i>et.al</i> (2024) ; Lutfi <i>et.al</i> (2024); Junaidi <i>et.al</i> (2024); Alhatabat <i>et.al</i> (2024); Al Kahtani <i>et.al</i> (2024); Wang <i>et.al</i> (2024); Grobler <i>et.al</i> (2024); Pereira <i>et.al</i> (2024); Rindasu <i>et.al</i> (2024); Wang <i>et.al</i> (2024); Lopes <i>et.al</i> (2024)	13
2025 (until March)	Sameh (2025); Jaradat (2025); Alzahmi <i>et.al</i> (2024); Yurtai (2025)	4
Total		35

From the data above, it can be seen that research on ERP in the period 2016 to 2021 amounted to 5 articles in each year. In 2022, 6 articles were recorded. While in 2023, 8 articles were recorded. Meanwhile, in 2024 13 articles were recorded. And 2025 (until March), 4 articles were recorded.

The data shows that there is an increase in research from year to year. Even in 2024, there were 13 articles discussing the topic of ERP (2025 is an exception because the data is up to March, and it is possible that the number will increase). The increase in research on ERP was triggered by Covid-19. This resulted in organizations having to carry out operational activities efficiently.

b. Publication by journal

Table 2. Number of Publications By Jurnal

Journal	2016	2017	2018	2019	2021	2022	2023	2024	2025	Index Scopus
International Journal of Accounting Information Systems									1	Q1
International Journal of Information Management							1			Q1
Journal of Financial Economics								1		Q1
Journal of Business and Socio-economic									1	Q2
Journal of Accounting Literature							1			Q3
Industrial Management & Data			1							Q1
Arab Gulf Journal of Scientific Research						1				Q2
Journal of Humanitarian Logistics and Supply Chain Management				1						Q1
Journal of International Logistics and Trade					1					Q2
European Journal of Management and Business Economics		1								Q2
International Journal of Operations & Production Management							1			Q1
The Electronic Library						1				Q2
The Southern African Journal of Entrepreneurship and Small Business Management								1		Q3
Information Technology & People						1				Q1
Kybernetes							1			Q1

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Global Knowledge, Memory and Communication						1				Q2
Other	1			1		2	3	11	2	
Total	1	1	1	2	1	6	6	13	4	35

The table above is in accordance with the model of Van (2024). Journals that are not indexed by Scopus are included in the “other” category. Journals that are indexed by Scopus are included in the analysis. Meanwhile, there are 35 article publications above, only 17 are indexed by Scopus, while 18 are discontinued.

Therefore, 17 articles were analyzed. According the 17 articles, 8 articles are from Q1 indexed journals (47%), 5 articles are from Q2 indexed journals (29%), and 4 articles are from Q3 indexed journals (23%). In total, the percentage of ERP-related publications in journals indexed in Q1 was 22.8%, indexed in Q2 was 14.2%, indexed in Q3 was 11.4%, and not indexed/discontinued was 51.4%.

The journal on Scopus indexed are Journal of Humanitarian Logistics and Supply Chain Management, Journal of International Logistics and Trade, European Journal of Management and Business Economics, International Journal of Operations & Production Management, The Electronic Library, The Southern African Journal of Entrepreneurship and Small Business Management, Information Technology & People, Kybernetes, Global Knowledge, Memory and Communication.

c. Publication by Country

Table 3. Number of Publications By Country

Country	2016	2017	2018	2019	2021	2022	2023	2024	2025	Total
Qatar									1	1
United States							1			1
Singapore								1		1
Jordan						1	1		1	3
United Kingdom							1			1
Austria			1	1						2
Turkey					1			1		2
Sweden		1								1
Finland							1			1
Iran						1				1
South Africa								1		1
France						1				1
Pakistan							1			1
Total		1	1	1	1	3	5	3	2	17

From table 3 above, it can be seen that there are authors from 13 countries who published articles on the topic of ERP in Scopus-indexed journals. The countries are from Qatar (1), United States (1), Singapore (1), Jordan (2), United Kingdom (1), Austria (2), Turkey (2), Sweden (1), Finland (1), Iran (1), South Africa (1), France (1), and Pakistan (1). From the data above based on the number of publications throughout 2016 to 2025, Jordan has the highest ranking with 3 publications. While Austria and Türkiye each have 2 publications.

d. Main Topic By Authors

Table 4. Main Topic By Author

Author(s)	Main Topic
Oghazi <i>et.al</i> (2017)	Radio frequency identification and enterprise resource planning systems contribute to supply chain management.
Barth <i>et.al</i> (2018)	14 critical success factors for ERP implementation.
Sigala <i>et.al</i> (2019)	12 ERP design principles to improve organizational performance
Aktürk (2021)	Integration business processes with ERP strengthen company's Weaknesses
Shajrawi and Aburub (2022)	ERP system impact on Organizational agility.
Tavakoli <i>et.al</i> (2022)	ERP systems as a strategic business to enhance operational efficiency and competitiveness

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Bawack <i>et.al</i> (2022)	Managing Conflicts between ERP clients and consultants.
Almajali <i>et.al</i> (2022)	The factor on ERP implementation
Nakayama <i>et.al</i> (2023)	Greater effectiveness on managing ERP projects.
Elbardan <i>et.al</i> (2023)	The legitimacy of internal auditing on ERP implementation.
Saiah <i>et.al</i> (2023)	Data model on ERP systems
Mahmood <i>et.al</i> (2023)	Successful factors on ERP implementation.
Afifa and Saleh (2023)	ERP system adoption factor implementation
Charoenwong <i>et.al</i> (2024)	Technological investments affected fewer customer complaints and less employee misconduct.
Jacobs and Kabaso (2024)	The adoption of ERP systems to enhance operational efficiency and competitiveness.
Sameh (2025)	Dialectics ERP varies across organisational sizes: transparency in large organisations, accessibility in medium-sized enterprises, and misalignment in small enterprises.
Jaradat (2025)	The effective use of ERP systems positively impacted the control of product life cycle costing.

All of the articles above generally discuss ERP implementation in organizations. There are 5 articles discussing the key to successful ERP implementation in organizations Barth *et.al* (2018), Sigala *et.al* (2019), Almajali *et.al* (2022), Nakayama *et.al* (2023), and Mahmood *et.al* (2023). Bawack *et.al* (2022) discusses how to manage conflicts between ERP consultants and clients. This shows a major challenge in ERP implementation in organizations. ERP implementation is a current organizational need. On the other hand, organizations need consultants in their implementation. Consultants understand the needs of the organization. Clients have different perceptions from consultants. This triggers conflict in their interactions.

e. Theory and Method By Author

Table 5. Theory and Methode

Author(s)	Theory	Research Methode
Oghazi <i>et.al</i> (2017)	Institutional theory	Qualitative
Barth <i>et.al</i> (2018)	Grounded theory	Qualitative
Sigala <i>et.al</i> (2019)	Not Mentioned	Qualitative
Aktürk (2021)	Not Mentioned	Qualitative
Shajrawi and Aburub (2022)	Not Mentioned	Quantitatif
Tavakoli <i>et.al</i> (2022)	Technology acceptance model (TAM)	Quantitatif
Bawack <i>et.al</i> (2022)	Agency theory	Quantitatif
Almajali <i>et.al</i> (2022)	Not Mentioned	Quantitatif
Nakayama <i>et.al</i> (2023)	Documentation theory	Qualitative
Elbardan <i>et.al</i> (2023)	Legitimacy theory	Qualitative
Saiah <i>et.al</i> (2023)	Not Mentioned	Qualitative
Mahmood <i>et.al</i> (2023)	Not Mentioned	Qualitative
Afifa and Saleh (2023)	Technology acceptance model (TAM)	Quantitatif
Charoenwong <i>et.al</i> (2024)	Not Mentioned	Quantitatif
Jacobs and Kabaso (2024)	Not Mentioned	Qualitaitif
Sameh (2025)	Institutional theory	Qualitative
Jaradat (2025)	Resource-Based View (RBV) theory	Quantitatif

The data above shows that 9 articles present the theory used in the research. While the other 8 articles do not mention it. The research methods used include qualitative and quantitative. The theory used in this research are Institutional theory, Grounded theory, Agency theory, Documentation theory, Legitimacy theory, Institutional theory, and Resource-Based View (RBV) theory. Meanwhile, there are 10 articles using qualitative methods (58,8%) and 7 articles using quantitative methods (41,1%).

According to the research question as follows:

RQ1: How is the current state of research on Enterprise Resource Planning implementation?

Research on ERP is increasing over time. This is triggered by the increasing use of ERP in organizations. The research data above shows that in the time range of 2016-2025, research related to ERP continues to increase

RQ2: What topics are discussed in research on Enterprise Resource Planning implementation?

Nowadays, ERP research focuses on how ERP can improve organization's performance, information quality, and competitive advantage. The challenges of ERP implementation are enormous, so several studies focus on the keys to successful ERP implementation in organizations. Several studies also use ERP as an organizational strategy to win the competition.

CONCLUSION

Research on ERP is increasing over time. This is triggered by the increasing use of ERP in organizations. The research data above shows that in the time range of 2016-2025, research related to ERP continues to increase. Table 1 shows From that research on ERP in the period 2016 to 2021 amounted to 5 articles in each year. In 2022, 6 articles were recorded. While in 2023, 8 articles were recorded. Meanwhile, in 2024, 13 articles were recorded. And 2025 (until March), 4 articles were recorded. Table 2 shows therefore, 17 articles were analyzed. According the 17 articles, 8 articles are from Q1 indexed journals (47%), 5 articles are from Q2 indexed journals (29%), and 4 articles are from Q3 indexed journals (23%).

Meanwhile, table 3 above, it can be seen that there are authors from 13 countries who published articles on the topic of ERP in Scopus-indexed journals. On table 4, shows generally discuss ERP implementation in organizations. Table 5 shows, there are 10 articles using qualitative methods (58,8%) and 7 articles using quantitative methods (41,1%). Also, table 5 discuss shows the theory used on the research article. Future research should expand the database sources used. Although in-depth analysis is carried out, it is undeniable that there are things that are missed. From the data above, research related to ERP is still dominated by qualitative research. Future research is expected to use quantitative methods to enrich research findings. In addition, future ERP research is expected to be conducted in emerging countries to determine the development of ERP implementation.

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