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ERP IN PUBLIC SECTOR REFORM: A SYSTEMATIC LITERATURE REVIEW OF TECHNOLOGICAL, ORGANIZATIONAL, AND INSTITUTIONAL FACTORS

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ABSTRACT: Public sector reform has gained momentum worldwide, driven by the need for efficiency, accountability, and service improvement. Amid these efforts, the adoption of Enterprise Resource Planning (ERP) systems has emerged as a promising solution to modernize public sector operations. This study aims to provide a comprehensive understanding of the factors influencing ERP implementation in public sector reform through a Systematic Literature Review (SLR) of studies published from 2020 to 2024. The research examines three critical dimensions: technological, organizational, and institutional factors. Findings reveal that IT infrastructure readiness, system compatibility, and digital innovation are pivotal to the success of ERP systems, while organizational challenges such as bureaucratic structures and change resistance hinder effective implementation. Additionally, coercive, normative, and mimetic pressures from government policies and international standards drive ERP adoption. This research underscores the importance of a contextualized approach that integrates external pressures with internal readiness for digital transformation. The study contributes to ERP literature by offering a holistic view of public sector ERP challenges and opportunities and provides recommendations for policymakers to facilitate successful ERP adoption. Future research should explore cross-country comparisons and empirical case studies to further understand the nuanced implementation processes in different national contexts.

Keywords: Enterprise Resource Planning, Public Sector, E-Government, Systematic Literature Review, Change Management

INTRODUCTION

Public sector reform has become a crucial issue in many countries, especially in efforts to improve efficiency, accountability, and public services. Amidst these dynamics, the public sector is often considered lagging behind the private sector in terms of implementing modern technology. One promising approach is the implementation of Enterprise Resource Planning (ERP) systems, which have proven effective in the private sector. This research aims to provide a thorough understanding of how ERP systems contribute to public sector reform through a Systematic Literature Review (SLR). The main focus is directed at three main dimensions that influence the success of ERP implementation, namely technological, organizational, and institutional factors. The review results show that ERP can accelerate public sector reform by providing a framework that supports transparency, data integration, and operational efficiency. However, the different characteristics between the public and private sectors, such

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as bureaucratic structures, complex regulations, and resistance to change, pose significant challenges. Therefore, the implementation approach should consider the institutional and organizational context of each country or agency. The minimal number of articles focusing on ERP in the context of public sector reform also indicates that this study still has ample room to be developed in the scholarly literature. In the last two decades, public sectors around the world have faced growing pressure to undertake comprehensive reforms in order to improve efficiency, accountability, and the quality of services to the public. Public sector reform not only includes structural and administrative changes, but also leads to digital transformation in response to the rapid development of information technology. Based on the OECD Digital Government Index (2020) report, more than 70% of OECD member countries have developed national digital strategies, which explicitly encourage the modernization of public administration through the use of technology. However, the success rate of digital adoption and transformation varies widely between countries, especially in the public sector, which is often faced with complex structural and institutional challenges (Janssen & Estevez, 2013).

One technology that is increasingly being looked at to strengthen public sector reform is Enterprise Resource Planning (ERP) systems. ERP systems are designed to integrate an organization's various business processes and data into one coordinated platform, thus enabling increased efficiency, data consistency, and more accurate information-based decision-making (Monk & Wagner, 2013). Although initially developed and widely implemented in the private sector, the use of ERP in the public sector is starting to show an increasing trend, driven by the need to improve fiscal transparency, service accountability, and more effective resource management (Grabski et al., 2011).

According to data from MarketsandMarkets (2023), the global ERP market is expected to grow from USD 50.4 billion in 2022 to USD 78.4 billion in 2027, with the public sector being one of the key drivers of growth. At the national level, ERP implementation in government agencies has been implemented in various countries, such as the IFMIS (Integrated Financial Management Information System) project in Kenya, Smart Government ERP in the United Arab Emirates, and the State Treasury and Budget System (SPAN) in Indonesia. Nonetheless, many studies show that the failure rate of ERP projects in the public sector is still high, with some reports showing that more than 60% of implementations experience delays, cost overruns, or even complete failure (Consulting, 2022; Møller & al., 2020).

This high failure rate is due to various interrelated factors, mainly in three main dimensions: technological, organizational, and institutional factors. Technological factors include infrastructure readiness, system compatibility, and data security (Bradford, 2015). Organizational factors relate to organizational culture, leadership, and human resource readiness (Aladwani, 2001). Meanwhile, institutional factors relate to regulation, bureaucratic structure, and political stability and support (Scott, 2001). These three dimensions form an important framework in understanding the complexity of ERP implementation in the context of the public sector.

In that context, this study aims to conduct a Systematic Literature Review of ERP implementation in public sector reform, with a specific focus on these three dimensions. By reviewing scholarly literature from various countries and government contexts, this research seeks to present a comprehensive synthesis of critical success factors, commonly encountered barriers, and best practices that have been implemented. It also aims to identify gaps in the academic literature and provide recommendations for further research and evidence-based policy making.

The lack of academic studies that explicitly address ERP within the framework of public sector reform, especially from a multidimensional perspective, suggests that this topic is still relatively under-explored. Some previous studies tend to focus on technical or managerial aspects alone, without considering the interaction between structural and institutional factors that influence public sector dynamics (Haddara & Elragal, 2015; Nour & Mouakket, 2021). Therefore, the systematic approach in this study is expected to make a significant contribution to the development of the theory and practice of ERP implementation in the context of digitally transforming government.

The next section is the systematic writing, structured and organized in the following way. Section 2 presents a comprehensive literature review on ERP in the public sector, covering the definition of ERP, characteristics of the public sector, as well as a summary of previous research in this area. Section 3 describes the methodology used in this study. The main findings are presented in Section 4, which are then further discussed in Section 5. Finally, Section 6 summarizes the research results, highlights the main contributions to knowledge development, and provides suggestions for future research.

The novelty of this research lies in its focus on Enterprise Resource Planning (ERP) implementation in the public sector, particularly through a Systematic Literature Review (SLR) approach, which explores the technological, organizational, and institutional factors that influence ERP success. While existing studies have addressed ERP adoption in the private sector or focused on isolated technological or managerial aspects, this study integrates these dimensions, providing a multidimensional perspective that emphasizes the need for contextual adaptation. Moreover, it highlights the geographical disparity in ERP research, specifically noting a lack of studies from developing countries. This study also stresses the importance of institutional and organizational readiness, moving beyond technological factors to encompass the political and cultural barriers faced by public organizations in the adoption of ERP systems.

RESEARCH METHODOLOGY

This research employed a Systematic Literature Review (SLR) approach to systematically identify, evaluate, and synthesize scientific literature on Enterprise Resource Planning (ERP) systems in public sector reform, chosen for its ability to transparently and replicable collate evidence on complex, multidimensional factors like technological, organizational, and institutional influences on ERP adoption (Kitchenham & Charters, 2007). Following Denyer and Tranfield's (2009) SLR guidelines, the study progresses through five stages: formulating research questions, developing a search strategy, applying selection criteria, extracting and synthesizing data, and presenting structured, critical findings, ensuring a robust theoretical foundation for analyzing ERP success across the three key dimensions. Additionally, the PICOC (Population, Intervention, Comparison, Outcome, Context) framework—widely used in SLRs (Kitchenham & Charters, 2007) Petticrew & Roberts (2006) guide the study's question formulation, ensuring clarity and relevance in examining ERP implementation within the public sector.

Table 1. PICOC framework

Component	The description
P (Population)	Public sector organizations
I (Intervention)	Implementation of the ERP system

C (Comparison)	Before and after ERP: Organizations that adopt vs. those that don't
O (Outcome)	Operational efficiency, transparency, accountability, and institutional reform
C (Context)	The context of public sector reform and government digitalization

Source: Data processed

Furthermore, the literature review was guided by key research questions that determined the focus and scope of the study. The research questions include:

Table 2. Research Questions

NO	Research Questions
RQ1	How do technology factors such as IT infrastructure readiness, system compatibility, and digital innovation affect the success of ERP implementation in the public sector?
RQ2	How do organizational structures, work culture, and change management in public sector organizations affect the effectiveness of ERP implementation?
RQ3	How do institutional pressures such as government regulations, public policy, and pressure from external stakeholders affect ERP adoption in the public sector?

Source: Data processed

To answer this research question, we conducted an SLR to identify the evolution of research covering various technological approaches in continuous auditing as well as the challenges faced in their implementation. After identifying a sample of relevant reviews (n=400 articles), we used the SLR approach to identify the drivers and outcomes of AI adoption for innovation purposes. Adopting SLR with a systematic, transparent, and scalable approach reduces researcher bias.

Literature Search

The literature search strategy in this study was systematically designed to obtain relevant, high-quality, and appropriate articles on the main topic, namely public sector reform through the implementation of Enterprise Resource Planning (ERP) systems with a focus on technological factors. The search process was conducted through several internationally reputable scientific databases such as Scopus, Web of Science, and ScienceDirect. The selection of these databases is based on the breadth of coverage of the academic journals they index, as well as their ability to provide filters based on Quartile (Q1-Q3) and publication year categories. The search process is also supported by two auxiliary applications, namely:

a. Watase Uake Tools (https://watase.com)
b. Publish or Perish application (with Scopus database)

The initial stage of the search began with determining the main keywords. The search keywords were developed through a brainstorming process based on key terminologies that are often used in the literature of ERP, the public sector, and digital transformation in government organizations. The main keywords used include: "enterprise resource planning", "ERP in public sector", "government information systems", "technological factors", "ICT adoption in government", "ERP implementation in public sector". The keyword combinations were further developed with the help of Boolean operators such as AND, OR, and NOT to filter

articles more specifically and relevantly. For example, a search was conducted using phrases such as: ("enterprise resource planning" OR "ERP") AND ("public sector" OR "government") AND ("technology" OR "technological adoption" OR "ICT") The search timeframe was limited to 2020 to 2024 to ensure relevance and topicality. In addition, only articles available in English, as well as empirical studies, literature reviews, or case studies, were the focus of the search. The initial search process yielded hundreds of articles, which were then filtered using inclusive and exclusive criteria to ensure that only relevant and high-quality articles were analyzed further in this review. Once the articles were collected, an initial screening process of the titles and abstracts was conducted to filter out irrelevant articles, followed by a full content reading of the articles that passed the first stage. Only articles that contained discussions on ERP systems, technological factors in ERP implementation, and ERP applications in the public sector proceeded to the literature analysis and synthesis stage.

Inclusion and Exclusion Criteria

In order to keep the literature selection systematic, this study set the inclusion and exclusion criteria for ERP in Public Sector Reform: A Systematic Literature Review of Technological Factors as follows:

Table 3. Inclusion and exclusion criteria

Category	Inclusion Criteria	Exclusion Criteria
Main Topics	A study that discusses the implementation of ERP systems in the public sector	Studies that focus only on ERP in the private sector or industry
Technology Aspects	Articles highlighting technology factors (IT, technology adoption, and interoperability) in ERP implementation	Articles that do not examine the technological aspects in the context of ERP
Publication Type	Empirical studies, case studies, or systematic literature review (*peer-reviewed*)	Non-academic, editorial, opinion, or *non-peer-reviewed articles*
Language	Articles in English or Indonesian	Articles in languages other than English and Indonesian
Year of Publication	Articles published between 2020 and 2024	Articles published before 2020
Organizational Context	Studies conducted in the government sector, public institutions, or state institutions	Studies on commercial companies or non-governmental organizations with no public sector relevance
Text Availability	Full-text articles that can be analyzed thoroughly	Only abstracts are available, or articles are not fully accessible

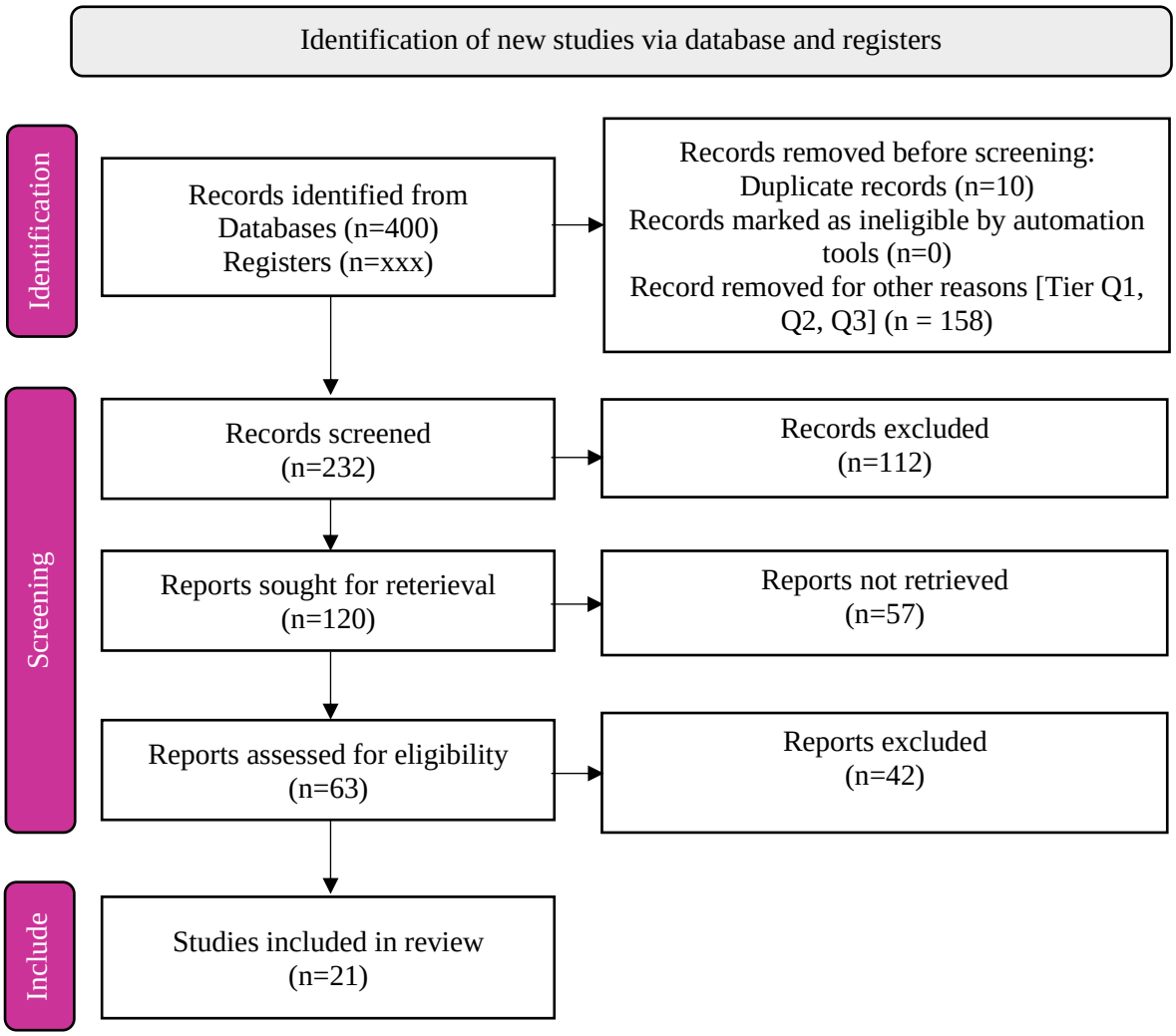
Source: Data processed

Literature Selection

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) approach was used in this study to ensure the literature selection process was systematic, transparent, and replicable. The procedure includes four main stages: identification, screening,

eligibility, and final inclusion. Identification. At this stage, a literature search was conducted through several reputable academic databases such as Scopus, Web of Science, and ScienceDirect, using keywords developed from the main topic: ERP, public sector, and technology factors.

Total articles found from the entire database: 400 articles. After removing duplication, 10 articles were removed for other reasons, such as not matching (Level Q1, Q2, Q3): 158. Initial Screening. The remaining articles were screened by title and abstract to identify relevance to the topic. Articles were eliminated due to irrelevance (e.g., ERP in the private sector or non-technology focus): 112 articles. Articles that passed to the next stage: 57 articles. Eligibility. The remaining articles were further analyzed by full-text review to assess whether the studies met the inclusion criteria, such as public sector focus, relevance to technology factors, and ERP implementation context. Articles were eliminated because they did not meet the criteria or were not available in full-text: 42 articles, Eligible articles: 21 articles. Inclusion. After a thorough evaluation, a total of 21 articles were finally included in the data analysis and synthesis process in this systematic review.



Picture 1. PRISMA flow chart

RESULT AND DISCUSSION

Research Results (RQ1): The Role of Technological Factors in the Success of ERP Implementation in the Public Sector

Enterprise Resource Planning (ERP) implementation in the public sector cannot be separated from the significant role of technological factors, which consist of IT infrastructure readiness, system compatibility, and digital innovation. Through a systematic analysis of 21 articles published in the span of 2020-2024, it was found that technological factors play a central role in supporting or hindering the success of ERP projects in government agencies.

Information Technology (IT) Infrastructure Readiness

IT infrastructure readiness is the initial foundation for adopting an ERP system. The infrastructure includes high-speed internet networks, hardware (servers, computers, storage), data security systems, and cloud computing support. The unpreparedness of this infrastructure often causes project delays, cost overruns, and even implementation failures.

According to Salih et al. (2021), many public organizations in developing countries face major challenges in terms of IT infrastructure, including lack of bandwidth and supporting devices. This study found that the success of ERP largely depends on the extent to which organizations can provide reliable and sustainable infrastructure. Meanwhile, Bialas et al. (2023) showed that government hospitals in Eastern Europe that have weak digital infrastructure have difficulty integrating data between departments. This causes the decision-making process to be slow and inefficient.

Almost all studies agree that IT infrastructure readiness is an absolute requirement for successful ERP implementation (Bialas et al., 2023; Salih et al., 2021). In the context of developing countries, the lack of infrastructure support, such as stable internet networks, modern hardware, and adequate cybersecurity, is a major challenge that hinders the optimal adoption of ERP systems. This shows that ERP cannot stand alone as a management information system, but depends closely on the condition of the surrounding digital ecosystem. Therefore, before starting an ERP project, public sector institutions need to conduct an IT infrastructure readiness audit, including the readiness of human resources in managing existing technological devices.

System Compatibility and Interoperability

Compatibility between ERP and existing systems is a technical challenge that public sector agencies often face. Many agencies still use legacy systems that are built modularly and do not support full integration with modern technologies. Roztocki et al. (2023) found that the incompatibility between ERP and existing systems led to the need for major efforts in customization, which ultimately increased project costs and risks. In another context, Ali et al. (2023) emphasized the importance of using open API-based approaches and cloud-hybrid platforms to address interoperability issues. This allows the new ERP to adapt to the existing technology ecosystem.

The issue of interoperability appears consistently in many studies as a major obstacle in the ERP integration stage, especially when the new system must “communicate” with existing systems that are closed or siloed (Ali et al., 2023; Roztocki et al., 2023). This situation shows that digital transformation in the public sector is often partial, without a holistic system integration roadmap. To overcome this problem, a more flexible and modular approach is

needed, such as the use of open APIs, middleware platforms, and microservices architecture. It also requires an active role from ERP vendors to adapt their solutions to the institutional context and existing information systems in user institutions.

Digital Innovation and Transformation Readiness

The adoption rate of digital innovations is also a key indicator of ERP success. Organizations that are open to the adoption of technologies such as Artificial Intelligence (AI), Internet of Things (IoT), and Big Data Analytics tend to be more successful in increasing the added value of ERP. Bandara et al. (2023) noted that the integration of ERP with predictive analytics technologies strengthens the planning capabilities and responsiveness of public sector agencies, especially in budget management and logistics. The study by Ahmad et al. (2023), which examined ERP implementation in the public sector of GCC (Gulf Cooperation Council) countries, found that government digital innovation policy support accelerates ERP success through increasing employee digital literacy and incentivizing technological innovation.

Unlike the previous two factors that are enablers, digital innovation acts as a differentiator that determines the extent to which ERP can drive added value to public services. Studies by Bandara et al. (2023) and Ahmad et al. (2023) emphasize that the integration of ERP with advanced technologies such as AI, IoT, and big data analytics strengthens data-driven planning, monitoring, and decision-making functions. However, the adoption of these innovations requires high organizational cultural readiness and adaptive capacity. In many cases, barriers are not only technical, but also resistance to change, especially among traditional bureaucracies that are not accustomed to data-driven work and integrated systems.

While the three technological factors above are complementary, data shows that infrastructure unpreparedness is a major obstacle in developing countries, while in developed countries, challenges more often arise from the compatibility of legacy systems and the need for continuous innovation. The combination of these three factors determines whether ERPs become merely administrative systems or actually drive comprehensive public service reforms. Cross-study analysis also indicates that geographical and economic contexts have a major influence on the role of technological factors in ERP implementation. In developed countries, challenges are more on the innovation and advanced integration side, while in developing countries, attention is still focused on providing basic infrastructure and harmonizing legacy systems. This shows the importance of a contextualized approach that cannot be homogenized globally.

The findings have important implications for policymakers and leaders of public organizations. First, there is a need for a national digital strategy that integrates the ERP agenda with IT infrastructure and technology innovation policies. Second, there is a need for strategic partnerships with technology providers and academics to improve technical and managerial capacity in managing digital change. Finally, an incremental and agile approach to implementation is needed to avoid the failure of overly ambitious large-scale projects. Technological factors greatly influence the success rate of ERP implementation in the public sector. Mature IT infrastructure, compatible systems, and readiness for digital innovation form a solid foundation for government digital transformation. Efforts to increase technological capacity must be carried out thoroughly and continuously so that ERP is not only formally adopted but also provides real value to public governance.

Research Result RQ2: Effect of Organizational Factors on the Effectiveness of ERP Implementation in the Public Sector

The implementation of Enterprise Resource Planning (ERP) systems in the public sector often faces complex challenges that stem not only from technological aspects but also from internal organizational factors that greatly influence the success or failure of the project.

Organizational Structure: Between Complexity and Coordination

Public sector organizational structures are generally still very hierarchical and bureaucratic. This pattern is proven to inhibit agility and cross-unit collaboration that is essential in the integrative ERP implementation process. Roztocki et al. (2023) emphasize that ERP systems are designed to bring together various functions on one platform, but public organizations are often divided into administrative silos, so data and processes are not easily integrated.

A case study by Al-Shboul et al. (2021) on the municipal government in Jordan showed that ERP failed to achieve its objectives due to overlap and unclear authority between work units, which caused confusion in the implementation of new business processes. In the context of developing countries, such as the study by Musa et al. (2022) in West Africa, it was explained that the lack of coordination between departments led to the replication of old processes in the new ERP platform, making the system inefficient. Organizational structures in the public sector are often rigid, layered, and highly bureaucratic. In the context of ERP, this structure actually becomes an obstacle to coordination and responsiveness between work units. This indicates that ERP is not just a technological tool, but also an agent of structural change that demands restructuring and simplification of processes (Roztocki et al., 2023).

This finding reinforces the argument that ERP success requires structural adjustments, including redefinition of authority, responsibility, and elimination of work processes that are no longer relevant in the digital era (Al-Shboul et al., 2021). If not anticipated, the old structure will "force" ERP to adapt to the old way of working instead of the other way around, leading to transformation failure.

Work Culture: Transforming Values and Attitudes toward Technology

Organizational culture is a soft yet crucial factor in ERP implementation. A work culture that is resistant to change, anti-innovation, and accustomed to manual processes greatly hinders the adoption of digital systems such as ERP.

Agrawal & Agarwal (2020) state that conservative work cultures that rely on a single authority and physical documentation often trigger resistance to system automation. Ndubisi et al. (2021) in a study in the Southeast Asian public sector identified the phenomenon of technology anxiety, which is a fear of new technology triggered by a lack of training, understanding, and participation in the technology adoption process. In contrast, organizations that have a high learning and innovation culture show a higher level of ERP success. This was demonstrated in the study of Ali et al. (2023), where government agencies that have implemented an agile culture managed to reduce ERP failure rates by 30%.

The discrepancy between the leadership's vision of digital transformation and the conservative work culture at the operational level is a significant challenge. The public sector often has a work culture that emphasizes stability and procedural compliance, which

contradicts the flexible and integrative character of ERP. The phenomenon of technology anxiety and resistance to change (Ndubisi et al., 2021) shows the importance of a comprehensive work culture change. This process cannot only rely on technical training, but also needs a managerial approach that targets work values, openness to change, and active participation of employees.

Change Management: Critical to a Successful ERP Implementation Strategy

Almost all articles in this review mention change management as the most critical organizational aspect. ERP is not just a system change, but a major change in ways of working, communication flow, decision making, and public reporting. Dwivedi et al. (2022) stated that good change management involves early involvement of end users in system design and decision-making regarding module configuration. The study by Ali et al. (2023) used the ADKAR framework (Awareness, Desire, Knowledge, Ability, Reinforcement) to show that organizations that follow a change management process with clear stages tend to complete ERP projects with high adherence to timeline and budget. Batenburg & van Veenstra (2020) show that organizations that ignore change management aspects such as training, communication, and cultural transition experience implementation delays of up to 12 months and cost overruns of 25%.

Poor change management is a common cause of ERP failure in the public sector. Digital transformation through ERP is not just a system change, but a paradigm transition. Therefore, a top-down approach is not enough. End-user involvement, intensive communication, and continuous support from the leadership are the keys to success (Dwivedi et al., 2022). This finding is consistent with the ADKAR (Awareness, Desire, Knowledge, Ability, Reinforcement) principle, which underscores the importance of simultaneously building awareness, desire, and ability at all levels of the organization (Ali et al., 2023). In the context of the public sector, reinforcement is particularly important, given that these organizations have a slow pace of change and weak incentive structures compared to the private sector.

Leadership and the Role of the "ERP Champion"

Several studies highlight that the presence of an "ERP Champion" within the organization has a major influence on the success of ERP projects. This individual could be a unit leader, digital transformation manager, or IT department head who actively communicates the vision and overcomes resistance. Bandara et al. (2023) highlighted the role of "ERP ambassadors" in a government agency in Australia who actively build internal coalitions and simplify technical communication to employees. In the Asian context, Zhou & Wang (2023) state that the role of informal leaders who are respected by field staff can also accelerate ERP adoption, especially at the technical implementer level.

The studies in this review show that transformational leaders or ERP champions have a major influence in bridging resistance and building trust in the new system. Without consistent and inspiring leadership, the ERP implementation process is easily disrupted by internal conflicts, a lack of clarity of vision, or even passive sabotage. This confirms the importance of involving informal leaders and change agents at all levels of the organization to strengthen the sense of ownership of the ERP system (Bandara et al., 2023) Zhou & Wang, (2023).

Organizational Conflict and Differing Priorities between Units

Other findings from the literature suggest that ERP implementation is often hindered by internal conflicts and differences in priorities between units or departments. This usually happens when ERP modules are only tailored to the needs of one main unit (e.g., finance), while other units are not involved. There is organizational jealousy due to uneven budget allocation and training. Tomaževič et al. (2021) noted that ERP in some Eastern European ministries failed due to internal conflicts between units that felt "forced" to use a system they did not develop together.

The results of the systematic review indicate that the success of ERP implementation in public sector organizations is strongly influenced by the internal dynamics of the organization, particularly organizational structure, work culture, and change management. Although technology is the main foundation of the ERP system, without the support of adequate organizational factors, digital transformation through ERP will be difficult to achieve its main objectives, namely, increased efficiency, transparency, and integration of public services. In general, organizational factors indicate the need for a paradigm shift in public sector management. ERP is not just an IT project, but a momentum to build digital governance. This requires internal reforms that touch on the way of thinking, working, and collaborating within the bureaucracy.

Research Result (RQ3): The Effect of Institutional Pressure on ERP Adoption in the Public Sector

Institutional pressures can be classified into three main forms: coercive, normative, and mimetic pressures (DiMaggio & Powell, 1983), each of which exerts a different influence on the motivation and way public organizations implement ERPs.

Coercive Pressure: The Dominance of Government Regulation and Policy

The majority of studies show that government regulations and national policies are key determinants in ERP adoption in the public sector, especially in developing countries. For example, e-Government policies or the digitization of public services often include ERP as part of the national strategy (Ali et al., 2023) Elbanna et al., 2021). Some studies note that pressure from oversight agencies such as ministries of finance or national audit agencies also pushes public sector institutions to improve accountability and transparency through ERP systems (Dener et al., 2021). In this context, ERP is not just a strategic choice, but an administrative compliance necessity.

ERP adoption is also influenced by normative pressures, namely expectations from the professional community and public audit institutions that prioritize technology-based transparency. Public sector organizations respond to the need to adopt systems that comply with accrual-based accounting standards, good governance principles, and management modernization (Nugroho et al., 2023). This pressure does not come from legal compulsion, but from professional imperatives and the institutional image they want to build. In some cases, the push comes from professional associations, government auditors, or public policy experts who advocate ERP as an ideal solution for resource management.

Normative Pressures: Professional Expectations and Institutional Standards

Normative pressures arise from the professional environment and institutional expectations that develop within the bureaucracy. Many public sector institutions feel the need to adopt ERP to conform to best practices adopted by peer institutions, both nationally and internationally (Nugroho et al., 2023). Accrual-based government accounting standards, ISO 27001, and public financial management frameworks (PFM frameworks) are important drivers of this pressure. Organizations that want to maintain their institutional legitimacy feel compelled to implement ERP systems to stay in line with modern governance norms and practices.

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Mimetic Pressure: Mimicking Successful Practices in Other Organizations

Many public sector institutions adopt ERP because they follow in the footsteps of other institutions that have successfully implemented it first, especially if the institution has a modern and professional image. This phenomenon is referred to as mimetic isomorphism, which is an attempt to imitate institutions that are considered more successful or legitimate (Roztocki et al., 2023). Findings from several studies (Zhou & Wang, 2023; (Schniederjans & Yadav, 2013) show that when ERP is successfully implemented in one institution, other institutions will feel encouraged or even pressured to do the same, so as not to be left behind technologically or reputationally.

In addition to regulation and professional norms, mimetic pressure has also been shown to influence ERP adoption. When public agencies see the success of other agencies in using ERP to improve efficiency and accountability, they are encouraged to imitate so as not to fall behind in reputation or performance (Zhou & Wang, 2023). This imitation often occurs in ministries or regional agencies that want to match the standards of central agencies or the private sector.

Influence of External Actors: Donors, Consultants, and Global Vendors

Several articles also highlight the role of international donor agencies such as the World Bank, the IMF, and the UNDP in encouraging public sector reform through digitization and ERP systems. Support in the form of funding, training, and policy frameworks has encouraged developing country governments to adopt ERP (Dener et al., 2021; Farid et al., 2022). In addition, major ERP vendors such as SAP and Oracle actively influence the adoption process through policy advocacy programs and technology demonstrations. Implementation consultants also shape policymakers' perceptions of the benefits and need for ERP.

International donors such as the World Bank, the IMF, and the Asian Development Bank are instrumental in transmitting institutional pressures through financing and technical assistance schemes. In developing countries, this pressure is both coercive and mimetic as donors suggest ERP as a prevalent form of modernization (Farid et al., 2022). ERP consultants

and vendors also have a role in shaping policymakers' perceptions through promotion, training, and documentation of success.

Regional and Country Context Variations

The level of institutional pressure varies greatly between countries and regions. In developed countries, pressure is more normative and mimetic, while in developing countries, coercive pressure from central governments and donors is more dominant. Strong or weak institutional contexts influence how these pressures translate into organizational action (Elbahri et al., 2021). The degree to which institutional pressures influence depends largely on the institutional context and capacity of the country. Countries with strong bureaucracies and rigid legal structures tend to experience stronger coercive pressure. In contrast, in countries with flexible bureaucracies, mimetic and normative pressures are more dominant (Elbahri et al., 2021).

Synergy of Institutional Pressure and Internal Factors

While external pressure is the initial trigger, successful implementation still depends on the organization's internal response. Studies highlight the importance of integration between institutional pressure and internal organizational readiness, both in terms of work culture and IT resources (Dwivedi et al., 2022). Without internal readiness, external pressures are likely to result in insubstantial symbolic adoption. While external pressure is high, some studies note that not all public institutions are able to respond effectively. Many ERP cases fail or stagnate due to infrastructure unpreparedness, resistant work culture, and lack of internal management support (Dwivedi et al., 2022).

The results show that coercive pressure, especially from government regulations and national policies, is the main trigger for ERP adoption in the public sector. In many countries, national initiatives such as the e-Government Master Plan, the Smart City strategy, or public finance reform encourage government agencies to adopt ERP (Ali et al., 2023) Dener et al., 2021). This creates a condition where ERP is no longer an option, but an administrative obligation that must be carried out in order to achieve accountability and transparency. Institutional pressure becomes a substantial driving force in the ERP adoption process in the public sector, whether in the form of regulations, professional norms, or copying strategies. However, the success of adoption is largely determined by how such pressures are internalized and responded to strategically by the organization. The balance between external pressure and internal readiness is key to the success of public sector digital transformation through ERP systems.

DISCUSSION

The successful implementation of ERP systems in public sector organizations is strongly influenced by various technological factors, including IT infrastructure readiness, system compatibility, and the ability to adopt digital innovations. These factors act as key drivers or obstacles in ensuring the ERP system runs optimally and provides benefits as expected. One of the most crucial technological prerequisites is the readiness of the information technology infrastructure. Public sector organizations often face obstacles such as the use of legacy systems, a lack of integration between systems, and a lack of investment in modern hardware and reliable networks (Al-Amin et al., 2023). These limitations can significantly hamper ERP

performance, especially in supporting real-time data integration and process automation. As stated by Bekiaris and Markogiannopoulou (2023), outdated infrastructure causes serious operational bottlenecks and lowers the overall effectiveness of ERP systems.

In addition, system compatibility is a major challenge in the context of technology. Many commercially available off-the-shelf ERP solutions are not specifically designed for the public sector, creating a mismatch with complex and bureaucratic government workflows (Roztocki et al., 2023). This mismatch often causes employees to continue to rely on manual processes as a complement to the ERP system, which ultimately reduces efficiency and raises the risk of data inaccuracies (John, 2023). Furthermore, an organization's ability to adopt digital innovations is also key to maximizing the benefits of ERP. Innovations such as cloud computing, mobile-based ERP, and AI-based analytics have begun to be implemented in several government agencies. Cloud ERP is becoming an attractive solution as it is more cost-effective, easily scalable, and allows access from anywhere (Carlsson-Wall et al., 2022). While central government units tend to be better equipped to adopt these solutions due to standardization drives, local agencies often face obstacles due to customization limitations and dependence on service providers (Chang et al., 2019).

Data security and digital governance issues are also major concerns. Given that ERP processes sensitive public data, the system must be able to meet data protection standards and prevent the risk of information leakage (Alkhodary et al., 2023). Failure to ensure data security not only disrupts operations but can also reduce public trust in government institutions. Several studies also highlight the role of 5G connectivity, mobile access, and cloud infrastructure as levers for digital transformation in ERP implementation. The utilization of mobile devices allows field employees to access data directly through tablets or smartphones (Muhammad et al., 2020). Meanwhile, the transition from on-premises systems to cloud-based ERP helps government agencies overcome limitations in server resources and geographic locations, while encouraging collaboration between units (Al-Amin et al., 2023).

However, literature shows that the public sector still lags behind the private sector in terms of adopting cutting-edge technologies. This is largely due to complicated procurement procedures, budget constraints, and a risk-averse organizational culture (Roztocki et al., 2023). Therefore, there is a need for a comprehensive technology investment strategy based on the digital transformation roadmap. Technology readiness is a key pillar for successful ERP implementation in the public sector. Success is not only determined by the purchase of the system, but by the extent to which the organization is able to adapt its IT infrastructure, build compatible systems, and be open to digital innovation. Public sector reform efforts through ERP should focus on adaptive technology adoption and a holistic and sustainable integration strategy.

The adoption of governance practices can sometimes result in governments adopting seemingly efficient solutions that may not accurately reflect the true level of effectiveness. In addition, governments may not have the necessary maturity to effectively manage the responsibilities associated with new mechanisms due to pre-existing deficiencies in their systems. The assumption that central governments may imitate each other due to normative pressures associated with the transition to accrual accounting and IPSAS adoption has been examined by Bekiaris and Markogiannopoulou (2023).

Drivers are significant factors that influence or contribute to the occurrence, progress, development, change, or improvement of a particular phenomenon. These drivers can include both technical and non-technical aspects. The former categorizes drivers into internal and external factors. The latter includes international standards, such as IPSAS and European Public Sector Accounting Standards (EPSAS), which serve as external mandates to ensure compliance with fiscal regulations or benchmarks. ERP systems include external technology drivers (World Bank, Public Sector Accounting and Reporting Program, 2021). when asked about the main drivers behind the adoption of ERP systems, respondents from the public and private sectors provided similar justifications. There are no inherent limitations in the administration of public organizations that would hinder their adoption of contemporary management practice, ERP systems, and integrated information systems commonly used in the private sector. While performance indicators and incentives may show variations, the underlying business processes remain largely consistent with those observed in the private sector. The need for precise and timely management information within the public sector is in line with the commercial sector.

Top management support and commitment are widely recognized as critical components of organizational readiness in various studies on IT adoption. This support is critical to securing adequate resources and overcoming inherent barriers and resistance to change within the organization (Marei et al., 2021). The expected results of efforts to improve technical readiness can only be achieved if it is integrated into a culture of learning and continuous improvement in the organization that demonstrates organizational readiness (Durrani et al., 2012). Organizational readiness is an important component examined in various studies on technology adoption. This relates to the internal capacity of the organization to embrace and integrate new technologies (Zhen et al., 2021).

Based on the location research of the reference articles used in this study, research in industrialized countries usually focuses on ERP development in the public sector, for example, by utilizing cloud-based ERP and cloud computing (Ali et al., 2023; Carlsson-Wall et al., 2022). On the other hand, research in developing countries often focuses on factors that influence, impact, and/or present barriers to ERP adoption in the public sector. The referenced articles used in this study are mapped by location in Figures 3 and 4 below. Figure 3 and Figure 4 provide complementary visualizations regarding the geographical distribution of research related to ERP implementation in the public sector. Figure 3 displays the number of articles per country in the form of a bar graph, while Figure 4 presents a spatial representation through a geo chart or world map. Both figures play an important role in understanding cross-country patterns of academic contributions to the topic of ERP in the public sector.

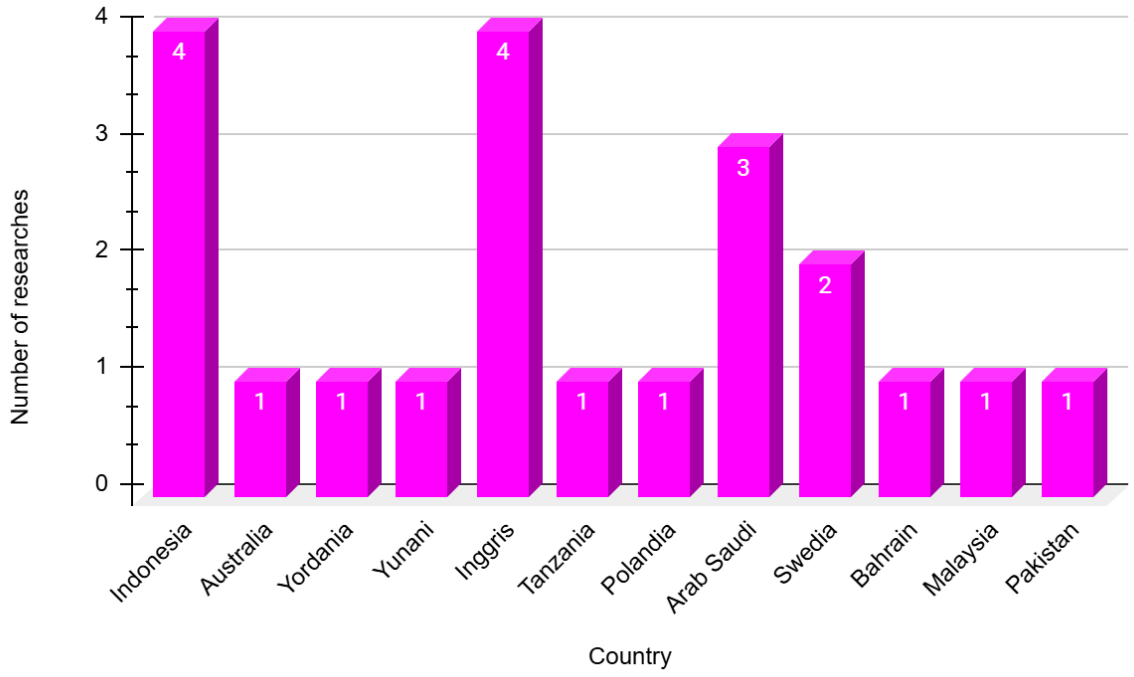

Figure 2. Number of research studies by the country

Source: Authors' elaboration using Google Sheets

Based on the data in Figure 3, countries such as Indonesia, the United Kingdom, Saudi Arabia, and the United Arab Emirates show higher contribution rates than other countries. This indicates that attention to ERP systems in the public sector has become part of the research agenda in various regions, particularly in Asia and the Middle East. Indonesia, in particular, is one of the countries with the highest number of articles in this review, indicating a growing interest in bureaucratic modernization through the digitization of government management systems.

This finding is consistent with Al-Mashari et al.'s (2006) finding that only a few studies have paid attention to the limited number of studies on ERP system implementation in developing countries. Most of the existing research mainly focuses on private companies in developed countries, ignoring the unique challenges faced by such projects in developing countries. This graph highlights the geographical gap in research focus and shows the urgent need for more studies in developing countries to explore their contextual challenges in implementing ERP.

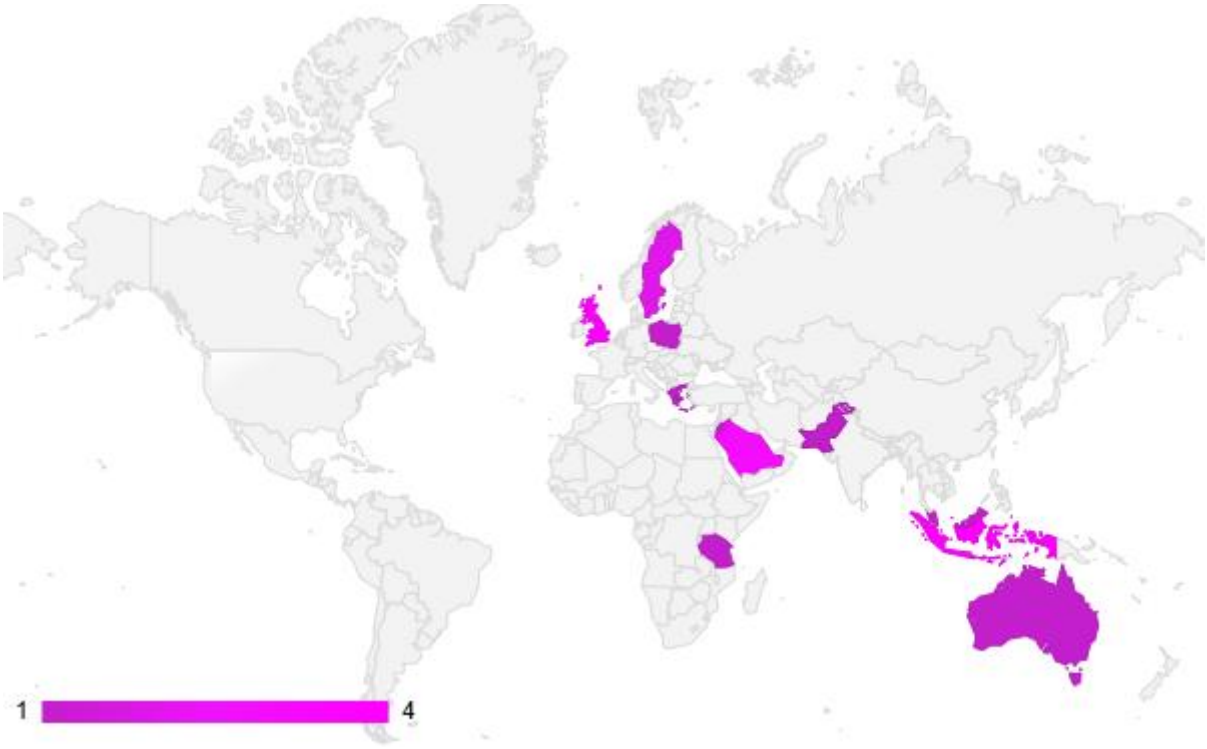

Figure 3. Geo chart of the number of research studies by country
Source: Authors' elaboration using Google Sheets

This figure presents the same data as Figure 3, but in the form of a geo chart (interactive world map). The colors on the map indicate the level of contribution of each country in the reviewed literature, with lighter colors indicating a greater number of studies. The geo chart provides a global visual overview of the geographical distribution of ERP research in the public sector. Through this map, it can be seen that Europe, the Middle East, and Southeast Asia are the main centers of relevant research. Meanwhile, Africa and Latin America are relatively underrepresented, confirming the imbalance of inter-regional scientific contributions on this topic.

Figure 4 provides the spatial context of this distribution, showing the color intensity as a representation of the number of studies. The darker regions, such as Southeast Asia and the Middle East, reinforce the findings of Figure 3 and highlight the geographical clustering of literature contributions. In contrast, many other regions, such as Sub-Saharan Africa, Eastern Europe, and Latin America, still show minimal contributions in public sector ERP studies.

The findings of these two visualizations confirm the assumption mentioned by Roztocki et al. (2023), that ERP literature in the context of the public sector is still centered on certain regions, with significant regional disparities. This is an important note in this systematic research because it shows that many local contexts have not been proportionally represented in existing studies. In addition, the presence of dominant studies from certain countries may affect the conceptual framework and generalizability of the research results. Different governance systems, digital infrastructures, and organizational cultures across countries demand a contextualized approach. Therefore, expanding the geographical coverage in future studies is important to make the study results more representative and globally comparable.

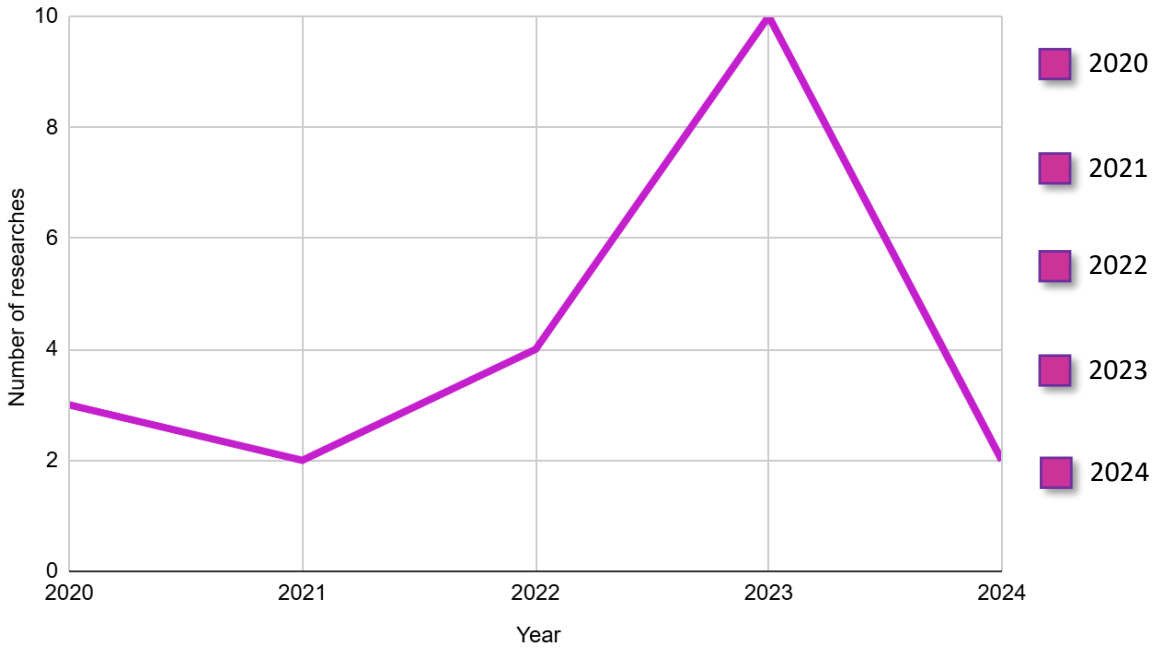

***Figure* 4. Number of research studies by year of publication**

Source: Authors' elaboration using Google Sheets

Figure 4 provides a visualization of the trend in the number of studies on ERP implementation in the public sector over the period 2020 to 2024. This graph is very important in the context of systematic reviews as it shows the dynamics of academic interest in the theme of information technology-based public sector reform, particularly through the adoption of ERP systems. Based on the graph, it can be seen that the number of publications experienced a gradual increase, with a peak in 2023. This surge can be attributed to the global push towards digital transformation in the public sector in response to the post-COVID-19 challenges. During this period, many governments accelerated the digitization of services to improve efficiency, transparency, and accountability- all of which are core values of ERP systems.

These findings suggest that the topic of ERP in the public sector is gaining increasing attention, not only as a managerial instrument, but also as an institutional reform strategy. This is in line with previous literature, which states that the utilization of information technology in public governance is starting to shift from the operational level to the strategic level (Dwivedi et al., 2022). This graph also reinforces the notion that digital transformation through ERP is no longer just the agenda of developed countries or the private sector, but has penetrated the public sector, even in developing countries. This is evident from the increasing number of context-based studies from countries such as Indonesia, Jordan, and Saudi Arabia. This finding is consistent with Alkraiji et al. (2022), who found that ERP specifically examining the government sector is still limited in availability.

CONCLUSION

This research comprehensively examines how ERP systems contribute to public sector reform, focusing on technological, organizational, and institutional factors influencing success. Through a Systematic Literature Review of 21 articles (2020–2024), key findings reveal that technological success depends on IT infrastructure readiness, system compatibility, and digital innovation adoption, with cloud-based solutions and AI integration enhancing efficiency if supported by robust data security. Organizationally, challenges include rigid bureaucracy and weak change management, necessitating stakeholder engagement and adaptive strategies. Institutionally, ERP adoption is driven by regulatory, normative, and mimetic pressures but requires internal readiness for meaningful change. The study highlights ERP's potential as a reform catalyst but emphasizes the need for a contextual, integrated approach balancing external pressures with internal preparedness. While contributing valuable insights for policymakers and practitioners, the research is limited by its 2020–2024 scope, reliance on literature reviews, and lack of empirical depth, suggesting future studies should explore cross-country case analyses for localized understanding. Recommendations include policy support for ERP-driven reform, internal readiness assessments, and integrated training initiatives.

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