

# Enterprise Resources for the Digital Transformation of Small and Medium Firms: A Systematic Review

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## ABSTRACT

The research aims to analyze enterprise resource planning (ERP) systems in the digital transformation (DT) of small and medium-sized enterprises (SMEs) by mapping a set of 60 academic publications in a highly regarded database covering exclusively studies from the years 2020-2024 mapping the predominant thematic currents in which the factors that drive ERP adoption in sectors such as manufacturing, mining, services, financial, and industries are analyzed. The study highlights how ERPs promote the unification and adoption of new technologies, as well as boosting business productivity and more informed decision making. However, it identifies obstacles such as the lack of specific studies, methodological variability, and resistance to change in many SMEs. Despite these challenges, the integration of Cloud-based ERP systems is considered a flexible and scalable solution, which allows SMEs to progressively scale towards digital transformation.

## KEYWORDS

Enterprise Resource Planning Systems, ERP Solutions, Digital Transformation, Small and Medium-Sized Enterprises, Systematic Review

## INTRODUCTION

Currently, digital transformation has significantly driven the restructuring of organizational systems, prompting changes in business management and encouraging companies to implement technologies that enhance efficiency through process automation (Ongowarsito et al., 2022). Consequently, in today's business landscape—characterized by continuous evolution and dynamism—digital transformation has established itself as an essential pillar for sustainable growth on a global scale, promoting competitiveness and strategic entrepreneurial vision (Ramadan et al., 2023; Sulastri, 2023). Furthermore, digital transformation is defined as the transition between the market and the population when adopting technological solutions in corporate processes (Palade & Møller, 2023),

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representing an opportunity for industries operating in changing and unpredictable environments (Dörr et al., 2023).

A concrete manifestation of this phenomenon is evident in small and medium-sized enterprises (SMEs), which play a vital role in global economies by fostering innovation, adding value, and expanding employment opportunities (Szabó et al., 2023). As the digital transition advances, these enterprises must reorganize their processes to remain competitive (Jeza & Lekhanya, 2022).

However, this transition is hampered by considerable impediments inherent in the distinctive characteristics of SMEs, such as a lack of financial resources, resistance to change, and a shortage of technical expertise. These factors further complicate the adaptation to an increasingly digitized environment (Arroyabe et al., 2024). Nevertheless, integrating into the digital evolution addresses issues such as data inconsistency, lack of centralization, and poor information coordination (Gessa et al., 2023), which is evident when digital tools are incorporated into operational and management activities (Kraft et al., 2022).

In this regard, the introduction of enterprise resource planning (ERP) software into corporate infrastructure generates several advantages for SMEs (Mohammed et al., 2023) due to its wide range of modules that facilitate real-time information transfer and drive efficient management across all business processes—including customer relations, supply chain, human resources, sales, and manufacturing (Mansour et al., 2022; Molina-Castillo et al., 2022). Furthermore, the incorporation of these systems provides SMEs with greater resilience, even when in an early stage of development (Roffia & Dabić, 2024), as innovative skills and the integration of emerging technologies are essential to strengthen business strategy (Remedi-Rumi & Arzuaga-Williams, 2024).

Scientific literature indicates that ERP systems act as a crucial starting point for digital transformation. Therefore, it is important to study their impact in different global contexts. A representative case in Malaysia is analyzed, where, although digitization was limited, organizations that implemented ERP systems significantly improved their operational efficiency, contributing to better decision-making, reduced costs, and increased competitiveness (Jayeola et al., 2020). Similarly, in Spanish SMEs, the adoption of technological solutions such as ERP has facilitated data analysis, enhanced user knowledge, and increased business innovation (Pfister & Lehmann, 2023). In contrast, in Peru, SMEs account for only 46.63% of value-added services, which may be related to limited investment in digital technologies (Ongowarsito et al., 2021). Given this reality, ERP systems represent a key step toward improving efficiency, optimizing resources, and accelerating digital transformation in these companies.

Unlike previous reviews focused on basic automation, this study examines the role of ERP systems as critical enablers of advanced analytics and Industry 4.0. In the SME ecosystem, an ERP is no longer a static repository but rather the infrastructure that feeds machine learning algorithms and real-time monitoring, facilitating a transition to predictive models. In this regard, this systematic review aims to address the following central research question: What role do ERP systems play in driving the digital transformation of SMEs between 2020 and 2024?

In addition, specific questions are posed to explore the topic in greater depth:

- RQ1: How does the adoption of ERP systems contribute to the development of SMEs during digital transformation?
- RQ2: What geographical, chronological, and thematic patterns are most explored in the literature on ERP and the digital transformation of SMEs?
- RQ3: What types of ERP platforms are selected by country in the selected studies?
- RQ4: What are the predominant barriers to the efficient implementation of ERP systems, and what elements ensure their successful adoption during digital transformation?
- RQ5: What methodological approaches, scopes, and tools stand out in studies addressing ERP systems and digital transformation?

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