

# Beyond Implementation: A Critical Review of the Literature on ERP Systems and the Financial Performance of SMEs

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DOI: <https://doi.org/10.51584/IJRIAS.2026.110400179>

Received: 09 April 2026; Accepted: 15 April 2026; Published: 19 May 2026

## ABSTRACT

This paper provides a critical review of the literature exploring the relationship between Enterprise Resource Planning (ERP) systems and the financial performance of Small and Medium-sized Enterprises (SMEs). While substantial research exists on ERP in large enterprises, the SME context is distinct and fraught with unique challenges. The review synthesizes findings into three dominant narratives: the "Productivity Paradox," the "Integrated Value Proposition," and the "Contextual Mediation" perspective. A critical analysis reveals significant methodological limitations, including a reliance on perceptual data, short-term financial metrics, and a lack of consensus on the definition of "financial performance." Furthermore, the literature often under-theorizes the complex mediating role of organizational and external factors. The paper concludes by identifying critical research gaps and proposing a framework for future studies to move beyond simplistic cause-and-effect models towards a more nuanced understanding of how, when, and why ERP systems influence the financial health of SMEs.

**Key Words:** ERP, SME.s, ROA and ROI

## INTRODUCTION

The adoption of Enterprise Resource Planning (ERP) systems has shifted from a luxury for large corporations to a perceived necessity for Small and Medium-sized Enterprises (SMEs) seeking efficiency, integration, and competitive advantage (Haddara & Zach, 2011). In an increasingly digital economy, SMEs are under pressure to streamline operations, and ERP systems are often marketed as a panacea for operational and financial woes. Consequently, a growing body of academic literature has sought to empirically investigate the link between ERP implementation and the economic performance of SMEs.

However, the findings are far from conclusive. While some studies report significant improvements in profitability, inventory turnover, and order management cycle times (Poston & Grabski, 2001; Nicolaou, 2004), others document negligible or even negative returns, pointing to high implementation costs, organizational disruption, and misfit (Mabert et al., 2003). This lack of consensus suggests that the relationship is not a straightforward causal link but is mediated by a complex array of factors.

This paper conducts a critical review of this literature with three primary objectives:

- To synthesize the dominant theoretical perspectives and empirical findings on ERP and SME financial performance.
- To critically evaluate the methodological and theoretical limitations prevalent in existing research.
- To identify significant research gaps and propose a refined agenda for future inquiry.

## Theoretical Foundations and Dominant Chronicles

The literature can be broadly categorized into three overlapping chronicles.

## The "Productivity Paradox" Chronicle

Early research, influenced by the IT productivity paradox, questioned the tangible financial returns from large IT investments. In the SME-ERP context, this manifests as studies that find a weak or delayed correlation between ERP adoption and financial metrics such as Return on Investment (ROI) and Return on Assets (ROA). The argument is that the substantial initial costs (software, customization, training) and the operational disruption during the "shake-down" phase often create a short-term financial dip that obscures long-term benefits (Gattiker & Goodhue, 2005). This narrative emphasizes the risks and highlights that financial gain is not automatic.

## The "Integrated Value Proposition" Chronicle

Contrasting the paradox view, this chronicle, rooted in the Resource-Based View (RBV) of the firm, posits that ERP systems can provide a sustainable competitive advantage by creating valuable, rare, and inimitable resources (Bharadwaj, 2000). For SMEs, the value is theorized to come from integrated data, process standardization, and improved decision-making capabilities. Empirical studies in this vein often report positive outcomes, such as reduced administrative costs, improved cash flow management, and faster financial reporting cycles (Shang & Seddon, 2002). The focus here is on operational efficiencies that are presumed to translate directly into financial performance.

## The "Contextual Mediation" Chronicle

A more recent and critical perspective argues that the ERP-financial performance link is not direct but is mediated and moderated by a host of internal and external factors. Key mediators include:

**Organizational Fit and Customization:** The misalignment between an off-the-shelf ERP's "best practices" and an SME's unique processes can lead to workarounds and reduced benefits (Soh et al., 2000).

**Absorptive Capacity:** An SME's ability to value, assimilate, and apply the new knowledge embedded in the ERP system is critical for realizing its financial potential (Cohen & Levinthal, 1990).

**Implementation Approach:** Top management support, user training, and effective change management are repeatedly cited as more significant predictors of success than the technical features of the software itself (Fined et al., 2010).

**External Environment:** Competitive pressure and government support can act as key moderators, influencing both the decision to adopt and the eventual payoff.

## Critical Analysis of the Literature

Despite its contributions, the body of work on ERP and SME financial performance is marked by several significant limitations.

### Methodological Shortcomings

**Over-reliance on Perceptual Data:** Many studies use survey-based, Likert-scale measurements of "perceived financial performance" from managers (e.g., Ifinedo, 2011). While insightful, these are susceptible to cognitive biases (justifying the investment) and do not equate to objective financial data.

**Lack of Longitudinal Design:** The financial impact of an ERP system unfolds over years. Most studies are cross-sectional, capturing a single point in time and failing to account for the J-curve effect of initial performance decline followed by recovery and growth.

**Inadequate Control Groups:** Establishing causality requires comparing adopting SMEs with a matched control group of non-adopters over time. This is rarely done rigorously, making it difficult to isolate the ERP's effect from other market or managerial influences.

**Narrow Definition of Financial Performance:** The focus is often limited to traditional accounting ratios (ROA, ROI). This ignores other critical financial health indicators for SMEs, such as liquidity, leverage, and creditworthiness, which may be more immediately impacted by an ERP-driven improvement in financial transparency.

### **Theoretical Under-development**

**Oversimplified Causal Models:** Many studies propose a direct ERP → Financial Performance model, ignoring the complex "black box" of mediating variables. The role of process-level improvements, data-driven culture, and strategic alignment as necessary precursors to financial gain is often implied but not explicitly tested.

**Homogenization of SMEs:** The literature frequently treats SMEs as a monolithic group. It fails to adequately distinguish between a 10-person startup and a 250-person mature manufacturing firm, which have vastly different resources, processes, and needs (Raymond & Uwizeyemungu, 2007). The type of ERP (Tier 1 vs. Cloud-based/SaaS) is also often not sufficiently differentiated in the analysis.

### **The Evolving Technological Context**

Much of the foundational research was conducted in the era of expensive, on-premise ERP implementations. The rise of Cloud ERP, Software-as-a-Service (SaaS), and modular, pay-as-you-go models has fundamentally altered the cost-benefit calculus for SMEs (Elbanna, 2021). Older findings may not be fully applicable to this new paradigm, which lowers entry barriers but introduces new challenges related to data security and vendor dependency.

### **Gaps in the Literature and Future Research Directions**

This critical review identifies several promising avenues for future research:

- **Longitudinal, Multi-method Studies:** Research that tracks SMEs from pre-implementation to post-implementation (3-5 years) using a combination of objective financial data, interviews, and process metrics is urgently needed.
- **Investigating the "Black Box":** Future models should explicitly test mediating variables. For example: To what extent does Data Quality mediate the relationship between ERP use and Improved Cash Flow Management?
- **SME and ERP Heterogeneity:** Studies should compare the outcomes for different types of SMEs (e.g., by industry, size, growth stage) and different types of ERP systems (e.g., full-suite vs. best-of-breed, Cloud vs. On-premise).
- **The Role of Digital Ecosystem Integration:** Modern ERP value may lie in its ability to integrate with other digital platforms (e.g., e-commerce, digital marketing, supply chain networks). Research is needed to explore how this ecosystem integration impacts financial resilience and growth.
- **Beyond Profitability:** Research should explore the impact of ERP on broader financial health indicators crucial for SME survival, such as loan approval rates, credit ratings, and valuation during acquisition or investment rounds.

## **CONCLUSION**

The relationship between ERP systems and the financial performance of SMEs is complex, contingent, and critically under-theorized in its current state. While the promise of integrated systems is compelling, the academic literature provides a cautionary tale that financial returns are not guaranteed. The dominant narratives of paradox, value, and mediation highlight the multifaceted nature of this relationship. Moving forward, researchers must abandon simplistic direct-effect models and embrace more sophisticated, longitudinal, and

context-sensitive frameworks. By doing so, we can provide SME owners and managers with more realistic, evidence-based guidance on how to navigate their digital transformation journeys to achieve genuine and sustainable financial improvement.

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