

The Impact of Digital Financial Management Systems on Cost Control Efficiency: Evidence from Manufacturing Enterprises in Jiangyang, China

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Abstract

This study explores how manufacturing enterprises in Jiangyang implement and utilize digital financial management systems for cost control, with particular emphasis on understanding user experiences, organizational conditions, and Technology Acceptance Model (TAM)-related perceptions that influence the effective and sustained use of these systems and their impact on cost control efficiency. This study adopted a qualitative research design. The population consisted of manufacturing enterprises in Jiangyang, with 15 participants selected through purposive sampling based on their direct involvement in financial management, cost control, and operational decision-making. Data were collected using in-depth interviews and analyzed through content analysis. The results found that digital financial management systems play a vital role in enhancing cost control efficiency by improving cost transparency, accuracy, and timeliness of financial information. The findings further reveal that perceived usefulness and perceived ease of use strongly influence user acceptance and sustained engagement with these systems. Organizational factors, including top management support, ongoing training, and cross-departmental coordination, were identified as critical enablers of effective system utilization. Conversely, resistance to change, limited digital competencies, and reliance on traditional cost control practices constrained deeper system adoption. The study concludes that digital financial management systems function most effectively as strategic organizational tools when technological capabilities are aligned with user needs and supportive organizational structures.

Keywords: Digital Financial Management Systems, Cost Control, Manufacturing Enterprises, Technology Acceptance Model (TAM), Qualitative Research

Introduction

In recent decades, the rapid advancement of digital technologies has fundamentally reshaped organizational management practices across industries, with financial management standing at the center of this transformation. Digital financial management systems—such as enterprise resource planning (ERP) systems, computerized accounting platforms, automated budgeting tools, and real-time financial analytics—have become essential instruments for firms seeking to enhance efficiency, accuracy, and strategic decision-making. In manufacturing enterprises, where cost structures are complex and profit margins are often sensitive to fluctuations in raw materials, labor, and energy prices, effective cost control is a critical determinant of competitiveness and sustainability. Consequently, the integration of digital financial management systems has gained increasing attention as a means of strengthening cost control efficiency and improving overall organizational performance (Avira et al., 2023; Budiasih, 2024; Li, 2024; Majumder, 2025).

Cost control in manufacturing traditionally involves planning, monitoring, and regulating expenditures related to production processes, procurement, inventory management, and overhead activities. However, conventional cost control methods, which rely heavily on manual record-keeping and periodic financial reporting, are often characterized by delayed information, data inconsistencies, and limited analytical capacity. These shortcomings reduce management's ability to identify cost overruns promptly, evaluate operational inefficiencies,

and respond effectively to market changes. Digital financial management systems address these limitations by enabling real-time data collection, automated cost allocation, and integrated reporting across departments. By linking financial data with operational activities, such systems provide managers with timely and accurate information to support informed decision-making and proactive cost management (Khan, 2022; Olajide et al., 2022; Chukwuma-Eke et al., 2024; Maemunah & Rismayadi, 2024; Paso et al., 2025).

Within the context of China's economic development, the manufacturing sector plays a pivotal role as a driver of industrial growth, employment, and technological innovation. In recent years, national strategies such as "Made in China 2025" and the promotion of digital economy initiatives have encouraged manufacturing enterprises to adopt advanced information technologies and modern management systems. Jiangyang, as an important manufacturing region, reflects these broader national trends while also facing distinct local challenges. Manufacturing enterprises in Jiangyang are under increasing pressure to control costs, improve productivity, and comply with regulatory requirements amid intensifying competition and rising production expenses. As a result, digital financial management systems are increasingly viewed as strategic tools for achieving operational efficiency and financial transparency (Li, 2018; Shenggao, 2022; Minghui & Chelliah, 2024; Mou, 2024; Wu et al., 2024; Yan & Wang, 2024; Zhang et al., 2025).

Behavioral intention refers to an individual's readiness or willingness to adopt and use new technologies or innovations and is widely recognized as a key predictor of actual usage behavior. It reflects the extent to which users are inclined to experiment with, accept, and integrate new systems into their daily work practices and decision-making routines (Chantraporn & Thaweepaiboonwong, 2024). The Technology Acceptance Model (TAM) provides a widely used and theoretically robust framework for explaining technology adoption in organizational contexts. The model posits that perceived usefulness and perceived ease of use are the primary determinants of users' attitudes and behavioral intentions toward a system, which subsequently influence actual system use. Perceived usefulness reflects the belief that a system enhances job performance and work effectiveness, while perceived ease of use refers to the degree to which the system is perceived as simple, intuitive, and free of effort to operate. Due to its simplicity, clarity, and strong explanatory power, TAM has been extensively applied to analyze user acceptance across various information systems and digital technologies in both private and public sector settings (Davis & Granić, 2024).

Existing academic literature has widely examined digital transformation and financial management from macroeconomic and technological perspectives; however, firm-level empirical evidence on the relationship between digital financial management systems and cost control efficiency remains limited, particularly within regional manufacturing clusters in China. Prior studies tend to focus on system adoption or technological infrastructure, with less attention given to how digital financial systems influence daily cost control practices, managerial decision-making, and operational routines. In response to this gap, this study explores how manufacturing enterprises in Jiangyang implement and utilize digital financial management systems for cost control, with particular emphasis on understanding user experiences, organizational conditions, and TAM-related perceptions that influence the effective and sustained use of these systems and their impact on cost control efficiency. By examining system implementation, use within organizational processes, and TAM, the study seeks to clarify how digital financial tools enhance cost visibility and support more informed cost-related decisions, thereby contributing both theoretical insight and practical guidance for manufacturing enterprises operating in digitally transforming environments.

Research Methodology

This study adopted a qualitative research methodology to gain an in-depth understanding of how digital financial management systems are implemented and utilized for cost control within manufacturing enterprises in Jiangyang. A qualitative approach was considered appropriate as it allows for the exploration of participants' experiences, perceptions, and organizational contexts, which are essential for examining complex processes related to technology use, managerial decision-making, and cost control practices. The study's population comprised manufacturing enterprises operating in Jiangyang. Purposive sampling was employed to select participants who possessed direct and relevant experience with digital financial management systems. A total of 15 participants were recruited, including finance managers, cost accountants, production managers, and operations supervisors who were actively involved in financial management, cost control, and operational decision-making. This sampling strategy ensured that the data reflected informed perspectives from individuals with practical knowledge of both digital systems and manufacturing cost structures. The data were collected through in-depth interviews. The interview guide was designed to align with the research objectives, focusing on system implementation, perceived usefulness, perceived ease of use, organizational support, and cost control outcomes. The semi-structured format allowed for consistency across interviews while also providing flexibility for participants to elaborate on issues they considered significant. All interviews were conducted within an agreed timeframe and were recorded and transcribed to ensure accuracy and completeness of the data. The collected data were analyzed using qualitative content analysis. This method involved a systematic and iterative process of familiarization with the data, coding meaningful units of text, grouping codes into categories, and identifying overarching themes. This analytical approach enabled the identification of patterns and relationships across participants' narratives while preserving the contextual richness of their experiences. Through this rigorous methodological process, the study generated credible and contextually grounded insights into the role of digital financial management systems in manufacturing cost control practices.

Result

Drawing on in-depth qualitative data, the results illustrate how digital financial management systems are implemented and experienced within manufacturing enterprises in Jiangyang, and how organizational conditions shape their effectiveness in cost control. The analysis is interpreted through the TAM, emphasizing perceived usefulness, perceived ease of use, and their influence on attitudes toward system use and sustained engagement.

Theme 1: Role of Digital Financial Management Systems in Cost Control Efficiency

This theme highlights that digital financial management systems are perceived as essential tools for enhancing cost control efficiency in manufacturing enterprises. By enabling real-time cost monitoring, budgeting, and variance analysis, these systems improve transparency and timeliness of cost information. Perceived usefulness of the systems, particularly their ability to support informed managerial decision-making, strongly influenced acceptance and integration into daily cost control practices.

Theme 2: User Experiences and Perceived Ease of Use in Daily Cost Control

This theme underscores the importance of system usability in shaping consistent and meaningful use. Intuitive interfaces, automation, and standardized reporting reduced resistance and increased user confidence, supporting routine engagement with digital systems. However, variations in system use were evident, as some enterprises relied on digital tools mainly for

reporting rather than analytical cost management, reflecting persistent dependence on traditional practices and lower perceived usefulness.

Theme 3: Challenges Affecting Technology Acceptance

This theme reveals that resistance to change, limited training, and uneven digital competencies constrained effective system adoption. These challenges weakened both perceived usefulness and perceived ease of use, leading to partial or symbolic system utilization. Technical implementation alone is insufficient; without adequate skills and understanding, users are unlikely to fully engage with digital cost control systems.

Theme 4: Organizational Conditions and Managerial Support

This theme emphasizes that organizational context plays a decisive role in determining system effectiveness. Strong top management support, clear cost control objectives, continuous training, and cross-departmental coordination facilitated sustained system use. In contrast, fragmented structures and weak collaboration limited the integration of digital financial data into decision-making processes, reducing the systems' overall value.

Discussion and conclusions

The findings contribute to existing literature on digital financial management and cost control by highlighting the socio-technical nature of system adoption in manufacturing contexts. Consistent with TAM, perceived usefulness emerged as a primary driver of system acceptance, particularly when digital financial management systems enabled timely identification of cost deviations and supported data-driven decision-making. This aligns with prior studies suggesting that users are more likely to adopt digital tools when tangible performance benefits are evident in their daily work practices (Cheng et al., 2007; Jo & Bang, 2023). Perceived ease of use also played a significant role, especially during the early stages of adoption. User-friendly interfaces, automated functions, and standardized reports reduced cognitive and operational burdens, facilitating greater engagement across both financial and non-financial managers (Cheng et al., 2007; Jo & Bang, 2023). However, the persistence of traditional practices, such as reliance on spreadsheets, indicates that technology acceptance is not automatic but is shaped by entrenched organizational routines and prior experience, consistent with Shonubi (2025) and Vraňáková and Babel'ová (2025). The findings extend TAM by demonstrating that organizational context mediates the relationship between perceptions and actual system use. Strong managerial commitment, ongoing training, and clear role definitions enhanced users' confidence and reinforced positive attitudes toward the system. In contrast, fragmented structures and weak coordination limited the integration of digital cost information into decision-making processes. These insights underscore that technology adoption in manufacturing enterprises is not solely a technical process but is deeply embedded in organizational culture, leadership, and learning mechanisms (Jo & Bang, 2023; Al-Okaily, 2024; Sudarmo et al., 2024; Prakash et al., 2025).

This study concludes that digital financial management systems have strong potential to enhance cost control efficiency in manufacturing enterprises in Jiangyang by improving the transparency, accuracy, and timeliness of cost information. These capabilities enable managers to monitor production costs more closely, detect deviations earlier, and implement corrective actions more effectively, thereby supporting more proactive and data-driven cost control practices. However, the findings indicate that these benefits depend on more than technical system implementation alone. User perceptions of usefulness and ease of use, along with adequate skills and training, are critical to sustained system engagement. Strong organizational support, including top management commitment and alignment between system functionalities and operational needs, further determines effectiveness. Overall, digital financial management

systems function most effectively as strategic organizational tools when technological capabilities, user engagement, and organizational structures are coherently integrated through a socio-technical approach.

Suggestion

From a theoretical perspective, the findings reinforce the relevance of TAM in explaining digital system adoption in manufacturing settings, while also highlighting the importance of incorporating organizational factors into technology acceptance analyses. This suggests the value of integrating TAM with organizational and institutional perspectives in future research. From a practical standpoint, manufacturing enterprises are encouraged to prioritize user-centered system design, comprehensive training programs, and continuous managerial support to enhance perceived usefulness and ease of use. Clear communication of cost control objectives and stronger cross-departmental coordination can further support meaningful system integration. Policymakers and industry stakeholders may also consider promoting digital capability development among manufacturing firms to support broader digital transformation initiatives. Future studies may explore the integration of emerging technologies, such as artificial intelligence and advanced analytics, and their implications for cost control and financial decision-making in manufacturing enterprises.

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