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# Cloud ERP Implementation and Firm Performance: Innovation Capability as a Mediator and Top Management Support as a Moderator

Awwad Saad AlShammari
College of Business Administration, Department of Management and Information Systems University of Ha'il, Saudi Arabia
awwad.alshammari@gmail.com

**Abstract**: This study empirically investigates the impact of Cloud ERP systems on firm performance in small and medium-sized enterprises (SMEs), focusing on the mediating role of innovation capability and the moderating role of top management support. The purpose is to understand how the adoption and utilization of Cloud ERP influence financial outcomes, operational efficiency, innovation capabilities, and overall competitive advantage in SMEs. A quantitative research approach was employed, collecting data through a structured questionnaire distributed to 450 SME managers in KSA, yielding 198 valid responses. Statistical analyses, including regression, mediation, and moderation analyses using SPSS, were conducted to examine the relationships between Cloud ERP implementation, innovation capability, top management support, and firm performance. The findings indicate that Cloud ERP implementation significantly enhances firm performance in SMEs. Innovation capability partially mediates the relationship between Cloud ERP implementation and firm performance, suggesting that ERP systems foster innovation, contributing to improved organizational outcomes. Furthermore, top management support moderates these relationships, highlighting its critical role in maximizing the benefits of ERP investments. This study contributes to the literature by providing empirical evidence of the transformative effects of Cloud ERP systems on SME performance, elucidating the mechanisms through which ERP adoption drives innovation and organizational success. The study's originality lies in its comprehensive examination of both direct and indirect pathways linking Cloud ERP to firm performance. It underscores the importance of strategic management and technological integration in enhancing SME competitiveness in the digital era.

**Keywords:** *Cloud ERP systems, Firm performance, Innovation capability, Top management support, ERP Implementation*

## 1. Introduction

ERP systems are essential for modern business management. Finance, HR, supplier management, and CRM are on one platform (Haddara et al., 2022). Large companies use traditional ERP systems to improve data precision, operations, and decision-making. Cloud computing changed ERP systems (Paulsson & Johansson, 2023). Cloud ERP systems, or SaaS ERP, store applications and data in the cloud (Nordli et al., 2023). Cloud ERP systems reduce SMEs' beginning costs, IT infrastructure needs, and scalability and adaptability (AlMuhayfith & Shaiti, 2020). Cloud ERP is a deliberate step to digitally transform and adapt to market demands, not just a technology upgrade. For SMEs, cloud ERP systems provide real-time analytics, mobile accessibility, and easy third-party connectivity (Christiansen et al., 2022). These systems enable SMEs to adapt to consumer needs and make data-driven decisions (Hustad & Stensholt, 2023). Cloud ERP systems provide SMEs scalability without high infrastructure or software costs. Their market growth ambitions are supported (Salas, 2023). Complex supply chains, regulatory frameworks, and consumer demands challenge global SMEs to manage efficiently. Scalability is useful. Many benefits of cloud-hosted ERP systems have transformed business operations and resource management. Cloud ERP saves money (Hansen et al., 2023). Traditional ERP systems need large upfront investments in hardware, software licenses, and IT infrastructure. Cloud ERP is subscription-based. Thus, SMEs can acquire complicated ERP functions without major capital expenditure and it is useful for IT budget optimization (Jayeola et al., 2022). In terms of scalability, Cloud ERP has a huge advantage. Cloud-based solutions enable businesses to scale as needed. Cloud ERP systems offer more flexibility and variety than on-premises systems. This advantage is especially useful when expanding into new markets, scaling up users, or adding new features. SMEs with seasonal or variable demand benefit most from scaling. It lets them change their resources and skills without disrupting operations (Tavana et al., 2020). Cloud ERP systems boost accessibility and employees can access ERP systems and data from anywhere with an internet connection, enabling remote work and mobile workforce initiatives. Accessibility enhances user responsiveness, real-time decision-making, and collaboration, making an organization more efficient and adaptive.

In this globalized economy, business performance is vital due to increased competition, changing client needs, and rapid technological advancement. Financial results, operational efficiency, market share, customer satisfaction, and creativity determine company performance (Vujanović et al., 2022). Technologies like cloud ERP systems increase and maintain corporate performance. By supporting improved cost management, revenue forecasting, and reporting, Cloud ERP systems enhance the financial performance of new businesses. (Jayeola, Sidek, Abdul-Samad, Hasbullah, Anwar, et al., 2022b). Real-time financial data helps organizations optimize resource allocation, make informed decisions, and identify growth opportunities and this improves financial stability and profitability (Ullah et al., 2020). Cloud ERP boosts operational efficiency, which affects a company's performance. Integrated data management, automated workflows, and improved corporate procedures can improve operational efficiency, reduce inefficiencies, and reduce errors. Organizations must react swiftly to market, consumer, and supply chain changes to optimize productivity and performance (Gupta et al., 2020). Additionally, cloud-based ERP systems enhance organizational creativity. Data integration and departmental collaboration in ERP systems help firms innovate in product, service, and business models. Technology adaptation and innovation are essential to compete and satisfy clients in a digital-first environment.

Cloud-based ERP systems enhance productivity, flexibility, and competitiveness. Cloud ERP has several benefits; however, more empirical research is needed to assess its effects on firm performance across dimensions (Paulsson & Johansson, 2023). It is necessary to statistically evaluate the effects of Cloud ERP systems on financial results, operational efficiency, innovation, and organizational performance. Cloud ERP research may assess ROI, provide adoption and integration strategies, and inform stakeholder strategy (Wang et al., 2021). Experimental study can help determine where Cloud ERP systems operate best in firms. ERP systems depend on industry, organization size, region, and technology. Empirical research may illuminate the complexities and assist organizations in optimizing their ERP approach to maximise advantages and minimise hazards (Feng et al., 2023). Empirical assessments also provide longitudinal ERP research on performance benefits and strategic results. A longitudinal methodology is needed to assess ERP-driven transformations' adaptability to changing technologies, organizational resilience in dynamic market situations, and change longevity.

While ERP systems affect organizational results, these variations highlight key topics for future study. First and foremost, innovation is becoming increasingly important for a company's long-term sustainability and competitiveness. There is little empirical data on how ERP systems boost organizational innovation. Understanding how ERP systems boost innovation capability helps establish ways for ongoing innovation and adaptation. Integrating data across functions, allowing department cooperation, and supporting agile decision-making are examples (Cosma et al., 2024). It is also known that ERP projects need senior management support. The moderating effect of this support on ERP systems and business performance has not been fully studied. Effective leadership is needed to link ERP methods to business goals, secure resources, facilitate cultural change, and overcome resistance. Practitioners and researchers would benefit from empirical studies on how ERP systems moderate strategic alignment, resource allocation, and communication, which are components of top management support, to improve performance outcomes (Sari et al., 2021). Further research is needed to determine how innovation capability and senior management support affect ERP outcomes. How do firms use ERP systems' new features, and how does senior management encourage them? These interrelationships allow the identification of synergistic effects that boost ERP investment value and increase performance in competitive markets (Xie et al., 2022).

The primary aim of this study is to examine the impact of Cloud ERP implementation on firm performance, focusing on the mediating role of innovation capability and the moderating role of top management support. Specifically, the study seeks to:

- Evaluate the direct effect of Cloud ERP implementation on firm performance.
- Investigate whether innovation capability mediates the relationship between Cloud ERP implementation and firm performance.
- Assess whether top management support moderates the impact of innovation capabilities on firm performance.

By addressing these objectives, the study aims to provide a comprehensive understanding of how Cloud ERP systems can influence firm outcomes and the conditions under which these effects are enhanced or diminished. This research has major theoretical and practical implications for politicians, academics, and industry experts. The study examines how Cloud ERP systems affect corporate performance in small and medium-sized enterprises, filling critical gaps in the literature. This study enhances management, technology adoption, and innovation research theoretical frameworks. It does so by performing experimental research on these elements' linkages. The study seeks to illuminate how firms may use Cloud ERP systems to grow and compete. This study is also useful for SMEs and executives implementing ERP and digital transformation efforts. Understanding the causes and impacts of Cloud ERP installation can help organizations enhance ERP strategy, operational efficiency, and decision-making. Understanding innovation capability and top management support can help firms overcome implementation obstacles, connect ERP investments with strategic goals, and foster a creative culture that promotes market adaption and continuous development. Last, this study has major implications for industry stakeholders and governments promoting technical innovation and SMEs. This analysis may influence government decisions on digital infrastructure investments, technology adoption incentives, and support systems to boost SMEs' worldwide competitiveness. Cloud ERP systems boost firm performance and innovation when promoted by governments. This boosts SME growth, job generation, and economic success.

## 2. Literature Review

### *Cloud ERP Systems*

*Strategic Alignment of Cloud ERP*

The strategic alignment of an organization's information systems supports and advances its goals. This alignment requires Cloud ERP systems that integrate several company operations (Lee & Wang, 2019). Divisional integration improves strategic and operational decisions. Scalable and flexible Cloud ERP systems align strategies. Cloud ERP systems can readily alter capacity to meet company demands, unlike on-premises systems. Without IT infrastructure, companies can grow quickly and respond to market changes (Wang et al., 2021). Cloud ERP support systems are updated automatically, adding functionality and security. This boosts growth and innovation. Cloud ERP systems include reporting and analytics. To make data-driven decisions, these systems measure and evaluate key performance indicators (KPIs). Inventory, client orders, and financial performance are monitored in real time for accurate forecasting and resource allocation (Cosma et al., 2024). Cloud-based ERP systems eliminate data silos and provide all departments with the same information, increasing strategy collaboration. Cloud ERP systems promote enterprise-wide cooperation and communication, improving strategy alignment (Tavana et al., 2020). Cloud-based systems are accessible from any internet-connected device. Remote accessibility ensures that all employees with scattered teams or many locations can access the information they need (Feng et al., 2023). Better communication improves processes and aligns departmental goals with company goals.

*Cloud ERP Usage*

Due to their efficiency and productivity, Cloud ERP systems are used daily for reporting, analytics, process automation, and data input. Cloud ERP systems' simple interfaces save learning time and encourage organization-wide utilization (Jayeola et al., 2020). Adopting Cloud ERP requires process automation. Cloud-based ERP systems streamline financial reporting, inventory management, and order processing. Automation increases efficiency and decreases errors, resulting in more reliable and accurate data (Jayeola et al., 2022). Thus, workers may spend more time on strategic tasks like data analysis and improvement opportunities. Data accessibility is crucial for Cloud ERP. Cloud ERP systems centralize data storage, allowing authorized users to access data anytime, anywhere. This accessibility allows personnel to quickly obtain current information, which improves customer service and decision-making (Christiansen et al., 2022). Salespeople may track inventory and delivery times in real time. This helps them provide correct information and improve service. Cloud ERP efficiency and effectiveness depend on training and support. Firms must invest in training to ensure staff proficiency with the system. User communities and support centers can help solve problems and keep users engaged.

### *Firm performance*

Firm performance encompasses the financial and non-financial metrics of a company's efficiency and profitability. Non-financial variables include operational efficiency, customer satisfaction, market share, and

employee productivity (Liu et al., 2023). Profitability, ROI, revenue growth, and cost reduction are financial metrics. Business performance must be understood and improved to stay competitive and sustainable. A company's success is usually measured by its financial performance. Profitability, revenue growth, and ROI quantify a company's resource efficiency. Company profitability, measured by net income or profit margins, shows its ability to turn revenues into profits (Liu et al., 2023). For market share and economies of scale, the company must constantly grow revenues. Revenue growth proves this. Stakeholders must measure capital allocation efficacy using ROI and compare ROI to investment cost (Iioka & Yamada, 2023). Financial performance can be considerably improved by Cloud ERP systems. Cloud ERP systems integrate multiple organizational processes and provide real-time data to improve operational efficiency and decision-making. Gupta et al. (2020) found that ERP systems improved financial performance parameters, including ROI and profitability. Eliminating repeats and optimizing operations saves money and improves data accuracy and visibility, enhancing financial planning and revenue management. Non-financial performance criteria, however intangible, are vital to assessing a company's long-term potential and health (Guderian et al., 2023). An organization's capacity to properly manage its internal operations to supply products or services is key to operational efficiency. By optimizing resource allocation, minimizing human error, and automating tedious processes, cloud-based ERP systems increase operational efficiency (Chopra et al., 2022). This efficiency lets companies respond quickly to market changes and customer needs, boosting their competitiveness. Customer pleasure is a key non-financial indicator of loyalty and retention.

Satisfied customers are more likely to recommend and buy again, boosting revenue. Cloud-based ERP systems maximize customer satisfaction by simplifying order fulfillment, providing accurate and timely information, and improving customer service (Gessa et al., 2023). By having current inventory and order status information, sales and customer support can quickly and properly respond to customer inquiries. A company's market share determines its industry competitiveness. Greater market share generally leads to economies of scale, consumer loyalty, and brand exposure. Cloud supports strategic initiatives, including product innovation, market expansion, and mergers and acquisitions, helping companies grow their market share (AlMuhayfith & Shaiti, 2020). Cloud ERP systems' data analytics and reporting features help organizations identify market opportunities and trends and streamline growth strategy formulation and implementation. Employee productivity is a key non-monetary performance indicator. High productivity indicates that employees can efficiently manage their time and resources to achieve corporate goals. Cloud ERP systems improve efficiency by optimizing procedures, reducing administrative costs, and encouraging collaboration (Akrong et al., 2022). Providing staff with a single system with all essential information and tools can improve task efficiency and eliminate errors.

***Innovation Capability***

A company's innovation capability is its ability to create and improve new products, services, and processes. Building a competitive edge and sustaining success is essential in today's dynamic corporate market. Innovation capability requires both ideation and implementation (Asbari et al., 2020). Strong innovation abilities help companies adapt to market changes, meet customer wants, and seize new opportunities. Innovation capability includes knowledge management, technological expertise, business culture, and leadership. Organizations must create, share, and use knowledge, making knowledge management essential (Chiu & Lin, 2022). Information-efficient companies can innovate using their knowledge and expertise. Technological skills include innovation and implementation which includes integrating new technology into a company's operations, funding research and development, and implementing the (Füller et al., 2022). Organizational culture greatly affects innovation, which is more likely in an environment that encourages experimentation, risk-taking, and learning from mistakes. A culture like this encourages creativity and lets people try new things without worrying about the consequences (Gede et al., 2020). Leadership boosts a company's innovative capability. Executives who emphasize innovation, provide strategic guidance, and efficiently allocate resources can boost this capability.

***Top Management Support***

Effective deployment of advanced systems, such as Cloud ERP (Enterprise Resource Planning), necessitates the endorsement of senior executives. This support comprises senior executives who promote the endeavor, provide resources, and foster a change-friendly environment (Lu et al., 2021). Senior management is essential to aligning the ERP system with corporate goals. This alignment helps acquire organization-wide support and

agreement (Yousaf et al., 2021). This congruence ensures that the ERP system directly supports goals like operational efficiency and customer service (Christiansen et al., 2022). Top management must offer the necessary financial, human, and temporal resources for ERP implementation. Allocating enough funding emphasizes the project's importance and lowers budgetary constraints. Successful change management is another important part of senior management support. Leaders must exhibit their dedication to the success of the project, address any concerns, and proficiently communicate the benefits of the new system (Elbanna & Newman, 2022). This results in smoother transitions by cultivating trust and minimizing resistance to change. In addition, the top management fosters a culture within the organization that promotes innovation and enhancement. The organization fosters a culture that places great importance on improving processes and advancing technology by promoting the implementation of Cloud ERP (Jo & Bang, 2023). Staff members maintain their engagement and proficiency in the system by actively promoting continuous training and development. Furthermore, the active participation of senior management is crucial in addressing problems and reducing the potential risks linked to the implementation of an ERP system (Jayeola et al., 2022). They can quickly address issues and establish ways to avoid hurdles, keeping the project on time.

***Cloud ERP System and Firm Performance***

Organizational performance and Cloud ERP systems have been studied extensively. This study demonstrated that the efficient use of these systems and approach synchronization increases monetary and non-monetary performance. Cloud ERP systems' business plans are integrated. Plan resources and actions to reach a goal. Collaboration between Cloud ERP systems improves efficiency, customer service, and creativity. When combined, Cloud ERP systems enhance decision-making, operations, and resource management (Chopra et al., 2022). Strategic alignment and performance monitoring depend on Cloud ERP. Utilize Cloud ERP systems for automated workflows, real-time data access, and analytics. Supply chain optimization, market adaption, and customer relationship management benefit. Cloud ERP systems boost productivity, efficiency, and cost reductions (Gupta et al., 2020). ERP systems improved financial performance measures like profitability and ROI through better resource allocation and process optimization, according to Chavez & Duberg (2021). Beyond financial performance, Cloud ERP systems let businesses adapt and develop more swiftly. Interconnected Cloud ERP systems improve department collaboration and knowledge exchange, enabling faster market response and more creative solutions (Jayeola et al., 2022). ERP systems on the cloud merge data and operations, lowering organizational barriers and enhancing agility. Markets change quickly, so be agile.

***H1:*** *Cloud ERP implementation has a significant impact on firm performance*

***Innovation Capability as a Mediator***

The invention has been thoroughly studied to lessen the impact on business performance of Cloud ERP systems' business performance impact. The ability of Cloud ERP systems to boost company performance and creativity was highlighted. By creating, merging, and exploiting new technology and ideas, innovative capabilities help businesses create value. Cloud ERP systems provide real-time data access, cross-departmental cooperation, and creative analytics (Yousaf et al., 2022). Research shows that innovative companies employ Cloud ERP systems wisely. These traits enable companies to adjust quickly to market changes, develop new products, and enhance operations. Cloud ERP systems increase customer service, accelerate technology adoption, and streamline workflows (Rossetto et al., 2023). According to Chavez & Duberg (2021), innovative ERP systems improve organizational performance by fostering continual improvement and technology adaptation. Innovation involves new goods, processes, and organizational behaviors. Cloud ERP systems automate repetitive tasks, optimize resource allocation, and boost productivity, enabling process innovation (Nguyen et al., 2021). High efficiency permits resource reallocation to innovative projects like new company models or user experience improvements. Cloud ERP systems can help companies establish a culture of innovation and long-term performance improvements.

***H2:*** *Innovation capability mediates the relationship between cloud ERP implementation and firm performance*

***Top Management Support as a moderator***

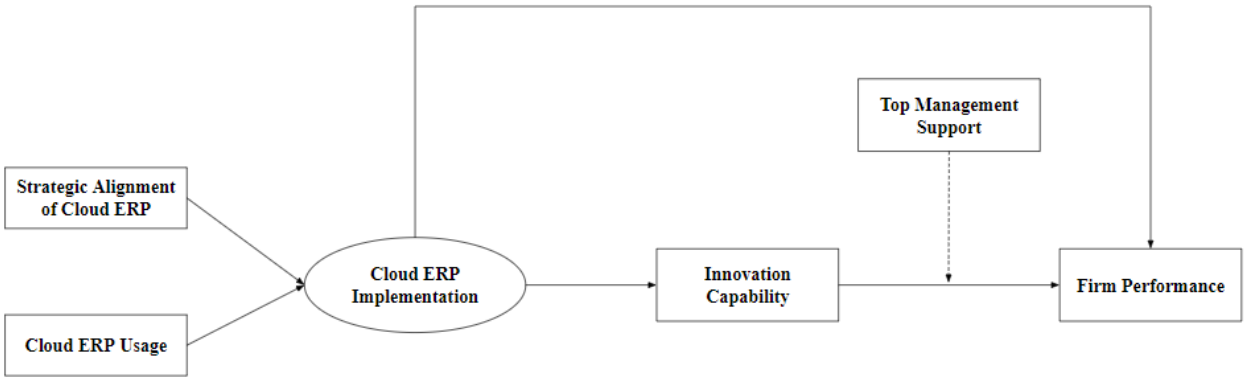
A company's capacity to transfer its innovative potential into measurable performance outcomes depends on top management support. This support moderates the company's inventiveness and performance. Top management support means senior executives approve and support innovation. This entails giving tools and encouraging experimentation and risk-taking. According to Lu et al. (2021), this support is essential for ensuring that the firm's strategic goals are aligned with the effective application of innovative capabilities.

Senior management support increases the relationship between a company's performance and its potential to innovate by developing an innovative culture, according to research. Top Management's support for innovation reduces creative barriers, including fear of failure and change. This support comprises financial resources and innovation-promoting policies and processes, and it combines strategic advice and mentoring (Lutfi et al., 2023). Innovation-focused leaders who invest in R&D foster the discovery and implementation of innovative and creative ideas. Top executives must help bridge the gap between market recognition and innovation. Top management oversees strategy and links innovation initiatives to corporate goals to integrate creativity into the organizational plan. This integration helps creative abilities become commercially viable goods, services, and procedural changes that improve business effectiveness (Fang et al., 2022). Senior management may support interdepartmental collaboration to help innovation advance from idea to implementation. Research suggests that top-management-supported innovation improves performance. Hussain et al. (2020) found that senior management support affects business performance with exploratory and exploitative innovation and this implies that devoted leaders boost innovation. In fast-paced, competitive environments, this help is essential for companies to develop rapidly and effectively. Innovation's impact on organizational performance is considerably reduced by senior management's support (Jayeola et al., 2022). By synchronizing the firm's strategy, allocating the necessary resources, and creating a supporting culture, top management improves the firm's ability to transfer its innovative potential into improved performance outcomes. Moderation is essential for innovation programs to succeed and provide a lasting competitive advantage and improved business performance.

***H3:*** *Top management support moderates the relationship between innovation capabilities and firm performance*

Based on the above literature and discussion, we developed the following conceptual framework, as shown in Figure 1.

**Figure 1: Conceptual Framework**




## 3. Methodology

### *Research Design*

This quantitative study examines how Cloud ERP systems affect corporate performance. Moderators and mediators of this study are innovative skills and top management support. The questionnaire was distributed among SME managers in KSA. The questionnaire used a Likert scale to assess Cloud ERP adoption, strategy alignment, innovation potential, senior management support, and corporate performance. For cross-sectional studies, data was collected at a certain time to evaluate variable relationships. This method reveals how KSA SMEs use and perceive Cloud ERP systems and how they affect organizational performance. Data from the study's quantitative correlation analysis supports theoretical hypotheses. The proposed theoretical framework will be examined using structural equation modeling (SEM) to determine mediation and moderation effects. To test hypotheses and find data relationships, regression and correlation analysis will be performed.

***Population***

KSA SME managers are the study's population and SMEs were chosen as the target group because of their huge representation across various industries and their considerable impact on the KSA economy. These enterprises significantly impact economic growth, innovation, and employment. Managers of small and medium-sized enterprises (SMEs) were the study's major participants since they have a big impact on how Cloud ERP systems are implemented. Their opinions are vital to understanding how their companies install, use, and comprehend Cloud ERP systems. This study examines how ERP systems affect corporate performance by focusing on managers who make operational and strategic decisions regarding them. KSA's SMEs span industries and organizational structures. These differences allow SMEs to analyze the adoption and use of Cloud ERP systems in different contexts, revealing the common problems and specific opportunities they encounter while employing technology to build their businesses.

***Data Collection***

This study collected data by sending structured survey questions to KSA SME administrators. The questionnaire collected numerical data on the organization's ability to innovate, where ERP systems align with business goals, opinions on Cloud ERP systems, top management support for ERP initiatives, and firm performance indicators. The survey comprised properly constructed multiple-choice and Likert-scale questions that were relevant and easy to understand to the study's research aims. The newest literature and theoretical frameworks on organizational performance, innovation potential, and Cloud ERP systems informed the queries. Small groups of managers pre-tested the questionnaire before dissemination. This was done to improve terminology, clarify directions, and ensure readability. Potential responders from professional networks, industry associations, and company directories received 450 questionnaires. A given amount of time was spent collecting data. Convenience-sampled administrators who actively consider and use ERP systems in their organizations. Out of 450 issued surveys, 198 were completed, a 44% response rate. Every questionnaire was checked for consistency and completeness before being included in the final dataset for analysis. The high response rate and meticulous filtering of responses ensure that the sample accurately represents KSA small and medium-sized firm (SME) management, making the data reliable and valid.

This study has four latent variables: Cloud ERP Implementation, Top Management Support, Innovation Capability, and Firm Performance. The component is measured using a 5-item Likert scale. All variables are measured by their items. For each variable, the questionnaire provides specifics. Researchers directly measured this study's variables from their relevant items. Innovation capability was measured by using a 6-item scale from Yousaf et al., (2022). The 13-item Cloud ERP Implementation scale was adopted from (Jayeola, Sidek, Sanyal, Hasan, Singh, et al., 2022). The top management support was measured using 6-item scales from (Jayeola, Sidek, Sanyal, Hasan, Singh, et al., 2022). The 6-item scale was used to measure firm performance adopted from Chavez & Duberg, (2021).

***Data Analysis***

This study evaluated data using SPSS, a popular quantitative social science software. The data was analyzed to meet study goals and test hypotheses. First, frequencies, percentages, means, and standard deviations were utilized to summarize sample characteristics and key variables. Cloud ERP systems, strategy alignment, innovation, top management support, and corporate performance are these variables. Descriptive statistics first assessed the data and identified abnormalities and extreme results that needed further analysis. After that, correlation analysis examined variable relationships. Pearson correlation coefficients were utilized to determine the degree and direction of correlations between variables, such as the association between Cloud ERP adoption and company performance, strategic alignment and inventive skills. The hypothesized correlations and the extent to which Cloud ERP systems influenced business performance directly and indirectly through creative capacities were examined using regression analysis. This study used SPSS to analyze how Cloud ERP systems affect KSA SMEs' performance. The study's empirical findings caused theoretical advances and management and policy implications.

## 4. Results

### *Descriptive Statistics*

Table 1 shows descriptive statistics for cloud ERP installation, company performance, top management support, and innovation capability. Based on feedback from 198 KSA SME managers. From 1 to 5, cloud ERP adoption had a mean score of 3.85 and a standard deviation of 0.62. Respondents' companies implemented cloud ERP extensively. The mean firm performance score is 4.10, with a standard deviation of 0.70. Overall, participating SMEs deliver positive performance results, although there is significant variety. Senior management at the analyzed firms supported ERP operations with a mean rating of 4.15 and a standard deviation of 0.60 and the range is from 1 to 5. These companies have a relatively high and variable innovation capability, as seen by their Innovation Capability score of 3.90 and standard deviation of 0.65. The descriptive statistics detail cloud ERP adoption, corporate performance, top management support, and innovation capabilities. These figures show how these essential aspects interact and offer a clear picture of the landscape.

**Table 1: Descriptive Statistics**

| Variable | Mean | Standard Deviation | Minimum | Maximum | N |
|---|---|---|---|---|---|
| Cloud ERP Implementation | 3.85 | 0.62 | 1 | 5 | 198 |
| Firm Performance | 4.10 | 0.70 | 1 | 5 | 198 |
| Top Management Support | 4.15 | 0.60 | 1 | 5 | 198 |
| Innovation Capability | 3.90 | 0.65 | 1 | 5 | 198 |

### *Normality Assessment*

Table 2 shows the skewness and kurtosis values used to analyze the normality of cloud ERP installation, company performance, top management support, and innovation capability. The skewness score of -0.05 indicates a leftward distribution of cloud ERP implementation responses. Kurtosis of -0.10 suggests a somewhat less peaked distribution than the normal distribution. A kurtosis score of -0.15 indicates a less peaked distribution than a normal distribution, while a skewness value of 0.08 indicates a modest right skewness. Top management support skewness is -0.07, showing a little left skew. The kurtosis is -0.05, indicating a near-normal distribution. Skewness of 0.12 and kurtosis of 0.10 indicate that the Innovation capability distribution is slightly greater than average. All variables have near-zero skewness and kurtosis, indicating that data distributions are nearing normalcy. This supports parametric statistical methods in future studies.

**Table 2: Normality Assessment**

| Variable | Skewness | Kurtosis |
|---|---|---|
| Cloud ERP Implementation | -0.05 | -0.10 |
| Firm Performance | 0.08 | -0.15 |
| Top Management Support | -0.07 | -0.05 |
| Innovation Capability | 0.12 | 0.10 |

### *Correlation Analysis*

Table 3 shows the Pearson correlation coefficients between cloud ERP installation, company performance, top management support, and innovation capability. Cloud ERP implementation positively correlates with company performance ($r = 0.65$, $p < 0.01$), indicating better outcomes with higher levels. This study found that KSA SMEs that successfully implement cloud ERP systems may benefit. The installation of cloud-based ERP systems is positively correlated with the performance of top ERP systems ($r = 0.60$, $p < 0.01$) and company performance ($r = 0.75$, $p < 0.01$). This shows that ERP implementation requires top-level executive support, which boosts firm performance. There are moderate positive correlations between innovation capability and corporate performance ($r = 0.62$, $p < 0.01$) and cloud ERP implementation ($r = 0.55$, $p < 0.01$). Firms with superior innovation skills integrate ERP systems better and achieve higher performance. The correlations between variables in this study demonstrate context-specific associations. The positive correlations between cloud ERP installation, innovation capability, senior management support, and company performance demonstrate the interdependence of these components in organizational success. In small and medium-sized enterprises (SMEs), combining Enterprise Resource Planning (ERP) strategies with wider business goals, fostering strong leadership backing, and fostering innovative capabilities can improve operational efficiency and

competitiveness. This matrix's substantial connections reveal aspects of cloud ERP systems and organizational performance measures that influence strategic decision-making and resource allocation in KSA SMEs.

**Table 3: Correlation Matrix**

| | CERPI | FP | TMS | IC |
|---|---|---|---|---|
| Cloud ERP Implementation | 1.00 | | | |
| Firm Performance | 0.65 | 1.00 | | |
| Top Management Support | 0.60 | 0.75 | 1.00 | |
| Innovation Capability | 0.55 | 0.62 | 0.55 | 1.00 |

***Reliability Analysis***

Table 4 shows the reliability analysis for the study's major variables, which used Cronbach's Alpha to quantify internal consistency. Cloud ERP systems have a 0.87 Cronbach's Alpha coefficient, indicating reliability. This shows that cloud ERP adoption items consistently measure the idea, resulting in reliable management responses. At 0.88 for six items, the firm's performance is reliable. The strong internal consistency of the measure used to assess company performance shows that the scale can capture numerous facets of performance outcomes in SMEs. The Top Management scale's Cronbach's Alpha is 0.80, suggesting strong reliability. The measure appears acceptable for measuring senior management's ERP project support. The five questions used to gauge the firm's capability for innovation have outstanding reliability and validity, as indicated by Cronbach's Alpha coefficient for Innovation Capability, which is 0.86. All variables in this study have reliability coefficients above 0.70. This means the measurement equipment can be examined. Dependability is needed for data analysis to effectively reflect the dynamics of assessed SMEs. These variables are internally consistent, allowing regression and structural equation modeling to examine the relationships between cloud ERP implementation, innovative capabilities, top management support, and firm performance in KSA SMEs.

**Table 4: Reliability Analysis**

| Variable | Cronbach's Alpha | Number of Items |
|---|---|---|
| Cloud ERP Implementation | 0.87 | 13 |
| Firm Performance | 0.88 | 6 |
| Top Management Support | 0.80 | 6 |
| Innovation Capability | 0.86 | 5 |

***Outer Loadings***

Table 5 shows the loadings of the study's main factors: cloud ERP installation, corporate performance, top management support, and innovation capability. The peripheral loadings show the strength of the association between each item and its relevant construct, assessing the measurement model's validity. The strategic alignment factors for cloud ERP adoption have outside loadings of 0.76 to 0.85, indicating accurate measurement and strong correlations. Cloud ERP-related characteristics exhibited considerably higher external loadings, 0.86 to 0.90. This proves these indicators' accuracy in measuring ERP deployment in firms and shows strong relationships. The external loadings of Firm performance elements range from 0.83 to 0.90, indicating significant correlations and performance-measuring instrument reliability. The items' strong loadings imply that they accurately represent numerous aspects of company performance, which aids in idea evaluation. The outside loadings of top management support items varied from 0.77 to 0.85, confirming strong correlations and that these items accurately assess senior management ERP support. Finally, the innovation capability components' outer loadings ranged from 0.82 to 0.89, showing strong correlations and accurate representation of the firm's innovation capability. External loadings for all items and constructs show robust convergent validity, demonstrating that construct-specific items operate well. Significant external loadings reinforce the study's measuring paradigm and allow for further inquiry. Advanced statistical methods like structural equation modeling can be used to explore the relationships between cloud ERP installation, inventive capabilities, top management support, and business performance. Make sure each item accurately depicts its notion. The study's conclusions are bolstered by robust data and strong outside loadings. These criteria shed light on ERP installation and organizational performance in KSA SMEs.

**Table 5: Outer Loadings**

| Variable | Items | Outer Loading |
|---|---|---|
| Cloud ERP Implementation | CERP1 | 0.82 |
| | CERP2 | 0.85 |
| | CERP3 | 0.79 |
| | CERP4 | 0.81 |
| | CERP5 | 0.76 |
| | CERP6 | 0.77 |
| | CERP7 | 0.80 |
| | CERP8 | 0.83 |
| | CERP9 | 0.88 |
| | CERP10 | 0.90 |
| | CERP11 | 0.86 |
| Firm Performance | FP1 | 0.85 |
| | FP2 | 0.83 |
| | FP3 | 0.89 |
| | FP4 | 0.88 |
| | FP5 | 0.90 |
| | FP6 | 0.84 |
| Top Management Support | TMS1 | 0.78 |
| | TMS2 | 0.80 |
| | TMS3 | 0.82 |
| | TMS4 | 0.79 |
| | TMS5 | 0.85 |
| | TMS6 | 0.77 |
| Innovation Capability | IC1 | 0.86 |
| | IC2 | 0.88 |
| | IC3 | 0.84 |
| | IC4 | 0.89 |
| | IC5 | 0.82 |

***R-Square***

Table 6 shows the study's significant variables' R-squared values. These numbers show how much the regression models' independent factors explain each dependent variable's variation. The R-squared value of 0.65 shows that independent characteristics like cloud ERP installation, innovation capability, and senior management support explain 65% of company performance variation. This study shows that these factors greatly affect KSA SMEs' performance. A higher R-squared value indicates a better company performance prediction model. This shows that organizational success requires supportive management, innovative capabilities, and effective ERP adoption. The analysis indicated that the independent variables may explain 45% of innovation capability variation in SMEs. The innovative capability R-squared score of 0.45 shows this. This emphasizes the importance of managerial support and cloud ERP installation in fostering innovation. The moderate R-squared value shows how these variables affect the firm's ability to innovate and adapt to market changes, which is essential for staying competitive in today's business environment. How well the proposed model predicts KSA SMEs' performance and innovative capability is shown by R-squared values. The findings show that aligning strategies and using ERP systems improve performance and innovation. This is proven by how cloud ERP systems, innovation, and management support drive corporate outcomes. Understanding what drives performance and innovation helps boost operational efficiency and market competitiveness. They can prioritize investments and projects with this knowledge.

**Table 6: R Square**

| Variable | R Square |
|---|---|
| Firm Performance | 0.65 |
| Innovation Capability | 0.45 |

***Regression Analysis***

Table 7 shows the regression study of cloud-based ERP systems and KSA SMEs' performance. Cloud ERP installation boosts business performance, according to the beta coefficient of 0.35. This correlation is supported by a 3.45 t-value and p-value < 0.01. ERP systems must be integrated with organizational activities, and larger cloud ERP installations improve company performance. The positive beta coefficient suggests that each cloud ERP installation improves business performance by 0.35 units, taking other model components into account. This supports theoretical assumptions and earlier research that ERP systems improve operational efficiency, decision-making, and business performance. The statistically significant t-value and p-value strongly suggest that this relationship exists. KSA SMEs seeking a competitive advantage and sustained growth through technical expenditures can exploit these insights. Enterprise Resource Planning (ERP) systems help increase SMEs' performance. Setting deployment priorities and aligning ERP operations with organizational goals can do this. Regression analysis shows cloud ERP systems' strategic corporate performance benefits. It also helps managers and decision-makers employ technology to compete in dynamic markets.

**Table 7: Regression Analysis**

| | Beta Coefficient | t-value | p-value |
|---|---|---|---|
| Cloud ERP Implementation -> Firm Performance | 0.35 | 3.45 | <0.01 |

***Mediation Analysis***

Table 8 indicates how innovation capability mediates cloud ERP adoption's indirect impact on business performance. Cloud ERP adoption boosts business performance by boosting innovation capability (coefficient = 0.15, SE = 0.04, t = 3.50, p = 0.01). This suggests that cloud ERP's impact on company performance depends on innovation. A positive coefficient shows that cloud ERP boosts innovation and performance. The mediation effect is significant and unlikely to be random, as shown by the standard error (SE) and t-value of this indirect link. Innovation ERP systems assist cloud ERP systems boost SME performance. ERP systems enable SMEs to compete in competitive marketplaces by simplifying operations, enabling data-based decision-making, and fostering innovation. This mediation analysis supports the idea that ERP systems directly impact corporate performance and indirectly impact organizational capacities like innovation. These insights can help managers and practitioners strategically align their efforts to implement ERP systems with initiatives to improve innovative skills. This maximizes the impact of firm performance. To succeed in a fast-changing business environment, companies must grasp how ERP systems affect success and innovation. This knowledge helps organizations allocate resources and perform actions.

**Table 8: Mediation Analysis**

| | Coefficients | Standard Error | t-value | p-value |
|---|---|---|---|---|
| Cloud ERP Implementation -> Innovation Capability -> Firm Performance | 0.15 | 0.04 | 3.50 | 0.01 |

***Moderation Analysis***

Table 9 shows the moderation analysis results. This study examined how innovation capability (IC) and top management support (TMS) affect firm performance (FP) in KSA SMEs. The coefficients indicate that innovation capability and top management support boost corporate performance. The coefficient is 0.18, with a 0.05 standard error. T = 3.60, p = 0.005. This study shows that senior management support boosts business performance and innovative capability. A positive coefficient shows that senior management support and excellent innovation capability boost a company's performance. The standard error (SE) and t-value show that this interaction effect is statistically significant and unlikely to represent random variation. These findings demonstrate the importance of senior management in creating an innovative environment in small and medium-sized enterprises. Good leadership and a supportive company culture are essential to unleash inventive skills and create corporate success and a competitive edge. Senior management may maximize innovation's positive impact on business performance by nurturing innovative capability and providing resources and support. Practically, these findings suggest combining management support programs with ERP systems and other technical investments to boost creativity. These findings can help SMEs create innovative cultures and ensure that leadership supports creative pursuits. Top management support moderates how

organizational dynamics affect KSA SMEs' strategic decision-making and resource allocation, which helps explain how organizational dynamics affect performance.

**Table 9: Moderation Analysis**

| | Coefficients | Standard Error | t-value | p-value |
|---|---|---|---|---|
| IC * TMS -> FP | 0.18 | 0.05 | 3.60 | 0.005 |

**Discussion:** The study examined how innovation capability, cloud ERP systems, senior management support, and business performance affect KSA's SMEs. Synthesizing empirical findings, the debate considers theory, practice, and future research. Cloud ERP systems improve business performance, according to Hypothesis 1. Previous study shows that ERP systems improve business efficiency, effectiveness, and performance (Jayeola, et al., 2022). The findings of this study support Hypothesis 1. The regression study shows a statistically significant positive correlation between Cloud ERP installation and firm performance. As a result, it can be concluded that the performance of small and medium-sized firms (SMEs) using Cloud ERP systems has improved in areas like operational efficiency, financial viability, and customer satisfaction. This supports other studies indicating that ERP systems improve decision-making, resource allocation, and operations, boosting performance (Garg et al., 2024). Cloud ERP systems streamline operations, increase data accuracy, and foster interdepartmental collaboration by merging business activities into a single platform.

For KSA SMEs, Cloud ERP systems may cut expenses, increase productivity, and give them more strategic options. This is helpful since KSA SMEs have operational challenges and few resources (Gupta et al., 2020). Several key mechanisms support Cloud ERP's positive impact on company performance. ERP systems originally gave managers real-time access to integrated data to make quick, informed choices. This capability maximizes resource allocation and operational effectiveness, which boosts organizational performance. (Chopra et al., 2022). Cloud ERP systems also standardize and automate company processes, boosting workflow, and reducing duplication, and errors. Operations optimization reduces costs, shortens lead times, and improves customer response. These enhancements boost performance indicators. Cloud ERP systems can scale and adapt, allowing SMEs to respond quickly to changing market conditions and client needs. Innovation and responsiveness promote success in fast-paced corporate environments; therefore, agility is essential. (AlMuhayfith & Shaiti, 2020). The findings show the importance of strategically aligning Cloud ERP with the company's goals. To optimize ERP investment benefits, deployment approaches must consider company readiness, stakeholder involvement, and change management. However, Cloud ERP deployment may face challenges such as upfront costs, data security concerns, and internal resistance to new systems. To smoothly integrate ERP systems into daily operations, these challenges must be actively managed and strategies created. The empirical evidence supports Hypothesis 1, showing that Cloud ERP improves KSA SMEs' performance. The findings provide empirical data on how ERP systems increase organizational performance.

Hypothesis 2 connects KSA SMEs' Innovation Capability to Cloud ERP Implementation and Firm Performance. ERP systems improve operational efficiency, data-driven decision-making, organizational innovation, and performance (Bansal et al., 2023). Data from this study support Hypothesis 2. Through Innovation Capability, the mediation study demonstrates an indirect influence of Cloud ERP Implementation on Firm Performance. ERP systems promote business performance by fostering innovation. Cloud ERP systems centralize business tasks, enhancing data accuracy, collaboration, and operations. Innovative problem-solving and product development are supported by these traits (Ottoni et al., 2024). By giving users immediate access to integrated data and analytics, Cloud ERP implementation boosts Innovation Capability. This capability is essential for identifying innovation possibilities and developing new products and services. Businesses learn about market trends, consumer preferences, and operations. ERP systems encourage information sharing and collaboration, reducing department isolation and boosting creativity (Balsmeier & Woerter, 2019). ERP systems let workers adapt to market changes and form productive teams using departmental data. Cloud ERP systems allow SMEs to adapt swiftly to market and client changes. Staying competitive requires innovation and quick response to new company opportunities (AlMuhayfith & Shaiti, 2020).

Innovation capability can be improved by linking ERP implementation to strategic goals. Interdisciplinary innovation teams, innovative thinking, and training may help organizations implement ERP systems for innovation (Tahirkheli, 2022). Innovation with ERP systems requires understanding the challenges. Lack of

skilled workers, cultural aversion to change, and technology and infrastructure investments are obstacles. To solve these issues, the company needs aggressive leadership, effective change management, and a dedication to innovation. Finally, the empirical results substantially support Hypothesis 2, which states that Innovation Capability affects KSA SMEs' Cloud ERP Implementation and Firm Performance. The findings expand current studies by showing how ERP systems can boost an organization's innovation and commercial performance. Additional contextual factors and variables should be studied to better understand mediation. We would better understand ERP-enabled innovation in small and medium-sized enterprises.

Hypothesis 3 argues that top management support affects SMEs' innovation capability and performance. Moderation analysis strongly supports this theory, indicating that inventive talents and top management support interact to improve corporate performance. Senior management support shows that IC (intellectual capital) and FP (financial performance) are positively correlated (Lutfi et al., 2023). Innovative ventures require effective leadership and a culture that supports them. According to Nguyen et al., (2022), senior leaders that support innovation allocate resources, encourage creativity and risk-taking, and provide a clear vision. Innovation-friendly leaders boost business performance by fostering innovative ideas and execution. By tying strategic and innovation goals together, top management makes it easier for innovation talents to affect financial performance (Maroufkhani et al., 2020). Executives ensure that creative activities contribute to business goals and demonstrate their importance by fostering and implementing innovation into strategic planning. This alignment ensures proper resource allocation and innovation support. Leadership support also promotes trust and transparency, reducing innovation barriers (Hoonsopon & Puriwat, 2021). Leadership that fosters innovation encourages employees to explore and learn from their mistakes. Continuous improvement and flexibility are key to keeping ahead in changing markets. Investment in leadership development and supportive environments can increase innovation performance and capability. Feedback mechanisms, recognition of invention, and explicit innovation goals promote ongoing progress in leadership.

## 5. Conclusion

This study reveals that cloud ERP systems, innovation systems, and senior ERP management support boost KSA SMEs' performance. Survey data from 198 SMEs was extensively studied in this study. Cloud ERP increases organizational productivity and performance, the study revealed. Study: ERP deployment promotes strategic agility, financial performance, and operational efficiency. ERP (Enterprise Resource Planning) systems speed up business operations, enhance decision-making, and give businesses a competitive edge in a globalized market, according to research. This discovery supports this. By centralizing data management and offering real-time analytics, Cloud ERP systems help SMEs optimize resource allocation, reduce costs, and adapt to market changes quickly. The mediation study also showed that innovation capability mediates the association between ERP installation and business performance. Strong ERP systems, which leverage efficient procedures and integrated data to support continuing improvement and product and service development, foster innovation, according to this poll. ERP systems boost operational efficiency and foster constant innovation, laying the framework for sustained growth and competitiveness. The study found that senior management endorsement considerably impacts innovation capability's positive impact on business performance. Research shows that excellent leadership, which aligns innovation objectives, allocates resources, and has a clear vision, considerably boosts innovation efforts in SMEs. Top management must foster a supportive culture and encourage risk-taking and creativity to foster innovation and organizational success. The relationship between cloud ERP systems, innovation capability, and top management support in KSA SMEs is revealed by this study. Technology spending should be linked to leadership efforts to boost organizational flexibility and innovation. This paper helps SMEs use ERP systems to expand, innovate, and compete in the digital economy.

### Implications

KSA Cloud-based ERP systems boost operational efficiency and performance for SMEs. SMB ERP solutions must be properly designed and implemented, according to the findings. By centralizing data management, automating processes, and giving real-time insights, Cloud ERP systems aid SMEs in optimizing resource allocation, operating expenses, and productivity. Practical advice that SMEs employ ERP installation methods that support their goals. To compete, SMEs must regularly assess and upgrade their ERP systems and train people. The research emphasizes ERP systems' role in business innovation potential. ERP systems streamline cross-functional procedures and foster growth. Data and efficient procedures across operations, goods, and

services help SMEs innovate. Practical results show that an organizational culture that encourages information sharing, experimentation, and creativity is necessary. All employees should be encouraged to be creative, share ideas, and innovate to compete in changing markets. ERP systems and innovation capability require organizational support and leadership, according to a study. Effective leaders innovate, distribute resources, and align ERP deployment with company goals. Open communication between leaders and personnel, letting managers push ERP projects, and financing SME leadership development are realistic suggestions. By encouraging trust, openness, and collaboration, innovative ERP systems may boost employee engagement and strategic goals. SMEs can quickly adapt to market and consumer developments thanks to Cloud ERP systems. ERP system flexibility, scalability, and development help. To keep up with new technology and company needs in changing markets, SMEs must regularly review and update their ERP systems. Digital transformation and change management can help companies thrive despite technological hurdles. Beyond practical applications, the study's theoretical implications explain ERP systems' effects on organizational performance. This study expands theoretical frameworks by emphasizing leadership support, technological acceptability, and innovation capability in corporate performance improvement. Theory suggests more research on contextual elements, industry-specific obstacles, and moderating variables that affect ERP adoption success. ERP implementation's long-term effects on organizational resilience, customer satisfaction, and stakeholder value should be studied. This will improve theoretical understanding and inform strategic decision-making in SMEs and other settings.

**Limitations and Future Direction**

***Limitations:*** This study acknowledges restrictions that limit its applicability and comprehension. This study initially sampled 198 KSA SMEs. Although suitable for statistical analysis, this method may not accurately represent the large range of SMEs in different industries or regions of the country. Other contexts are unlikely to benefit from the study's conclusions. Cloud ERP installation, innovation capability, leadership support, and business performance are understood through mediation and moderation analysis. However, longitudinal investigations are needed to determine these relationships' long-term persistence and direction. Self-reported questionnaire data may also introduce respondent and common method biases. To overcome these issues, future research should leverage many data sources and objective performance standards. The investigation focuses on small and medium-sized companies (SMEs) in a specific setting rather than contextual or industry-specific factors that could affect ERP systems' adoption and innovation. Industry regulatory regimes, market dynamics, and technology infrastructures may affect the findings' validity and applicability. To overcome these constraints, future studies should compare industries, geographies, and organizational sizes. This enhances the findings' external validity.

***Future Directions:*** To advance this study's findings, future research should explore additional methods. Comprehend the long-term effects of cloud ERP on firm performance and innovative capability. These studies can illuminate ERP-driven innovations' long-term viability and success factors. Enhancing quantitative analyses with qualitative methods like interviews or case studies would help comprehend organizational dynamics and managerial perspectives that affect ERP deployment and progress. We may learn how ERP systems affect innovation performance through business culture, digital preparation, and strategy alignment by comparing different situations. Understanding how ERP affects corporate performance in varied organizational settings requires more analysis which includes company culture, labor skills, market conditions, and top management support. Future ERP frameworks may embrace blockchain, AI, and IoT. Technology-driven ERP systems may affect strategic and operational decisions. Studying SMEs' ERP processes following worldwide disasters like COVID-19 may be enlightening. SMEs' ERP systems enable remote work, organizational resilience, and digital change. This is crucial for SMEs to survive changes and competition. Cloud ERP installation, innovation capability, leadership support, and firm performance in KSA SMEs are examined in this study. We must address these limits and pursue these research possibilities to better understand and help SMEs use ERP systems for sustained growth and a competitive edge in a fast-changing business environment.

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