



## **Exploring Cloud Enterprise Resource Planning Systems in Egyptian SMEs: Theoretical Framework for Financial Reporting Quality**

**Research extracted from a PH.D. thesis of Accounting**

*By*

**Dr. Dalia Adel Abas**

Prof. of Financial Accounting  
Faculty of Commerce, Damietta University  
[daliaadel2000@yahoo.com](mailto:daliaadel2000@yahoo.com)

**Dr. Hanan Hassan Gad Allah**

Lecturer of Accounting  
Faculty of Commerce, Damietta University  
[hanan128\\_2006@yahoo.com](mailto:hanan128_2006@yahoo.com)

**Mira Mohamed Ashraf El-Abd**

Assistant Lecturer of Accounting  
Faculty of Commerce, Damietta University  
[miraelabd1291990@gmail.com](mailto:miraelabd1291990@gmail.com)

***Scientific Journal for Financial and Commercial Studies and Research  
(SJFCSR)***

Faculty of Commerce – Damietta University

Vol.6, No.2, Part 1., July 2025

### **APA Citation**

**Abas, D. A.; Gad Allah, H. H. and El-Abd, M. M. A. (2025).** Exploring Cloud Enterprise Resource Planning Systems in Egyptian SMEs: Theoretical Framework for Financial Reporting Quality, ***Scientific Journal for Financial and Commercial Studies and Research***, Faculty of Commerce, Damietta University, 6(2)1, 1087-1147.

**Website:** <https://cfdj.journals.ekb.eg/>

Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd

---

## **Exploring Cloud Enterprise Resource Planning Systems in Egyptian SMEs: Theoretical Framework for Financial Reporting Quality**

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah**

**and Mira Mohamed Ashraf El-Abd**

### **Abstract**

- **Purpose:** This theoretical study aims to develop an integrated framework for evaluating the post-implementation performance of Cloud Enterprise Resource Planning (CERP) systems in small and medium-sized enterprises (SMEs) in Egypt. The evaluation is based on four critical dimensions: system quality (SQ), service quality (SVQ), information quality (INFQ), and top management support (TMS). Building on this evaluation, the study further explores the potential impact of effective CERP implementation on the overall quality of financial reporting.
- **Design/methodology/approach:** A conceptual model is proposed by integrating the DeLone and McLean Information Systems Success Model with elements from the Technology-Organization-Environment (TOE) framework. The framework is developed through a synthesis of relevant theoretical literature in the fields of accounting information systems, ERP implementation, and financial reporting.
- **Findings:** The proposed framework suggests that improvements in system quality, service quality, information quality, and top management support contribute significantly to the successful implementation of CERP systems. This success, in turn, is theoretically linked to enhanced financial reporting quality, particularly through improved data accuracy, timeliness, consistency, and transparency.
- **Originality/value:** This study contributes a novel conceptual framework that links CERP performance with financial reporting quality in SMEs. It emphasizes the integration of information systems and accounting theories, serving as a foundation for future empirical research. The framework also provides practical insights for decision-makers seeking to enhance financial reporting through effective ERP adoption and management.
- **Keywords:** Cloud-based Enterprise Resource Planning, Financial reporting quality, SMEs, Technology-Organisation-Environment, DeLone and McLean Information Systems Success.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

## **1. Introduction:**

Small and medium-sized enterprises (SMEs) play a pivotal role in supporting the Egyptian economy (Abouelghit & Gan, 2022; Al Zayani et al., 2023). However, they face challenges due to weak accounting practices and financial reporting (Allam et al., 2023). Several factors contribute to this, including limited awareness of the importance of financial reports, a lack of accounting expertise, financial resource constraints, and the complexity of accounting procedures from the business owners' perspective (Justice & Tetteh, 2017; Krishnan & Pavithran, 2018). As a result, their financial records are often inaccurate and unreliable (Abrokwah et al., 2015; Wiralestari et al., 2020), which hinders their ability to secure external funding, as banks require formal financial data as part of their evaluation process.

Several studies emphasize the importance of utilizing information technology to enhance the quality of financial reporting (Abrokwah et al., 2015; Ghaffar et al., 2019; Hanifah et al., 2020; Faccia et al., 2023). Information technology can address challenges faced by SMEs by simplifying accounting tasks, reducing costs, and providing easy-to-use tools for non-experts. Digital tools automate processes, ensure accuracy, and offer real-time financial data, enabling SMEs to produce reliable reports. This aligns with Egypt's Vision 2030, which promotes digital transformation to enhance efficiency, decision-making, and operational effectiveness, particularly during times of crisis (MCIT, 2019a; Sastararuji et al., 2023).

One of the most effective technological solutions that SMEs can adopt is Enterprise Resource Planning (ERP) systems, which serve as central platforms designed to coordinate and optimize various business operations (Alaskari et al., 2021). ERP systems are the backbone of information systems in organizations, contributing to the development of multiple areas such as accounting, human resources, inventory management, and order processing (Aroba & Mnguni, 2023). From an accounting perspective, these systems offer robust technical support for collecting, processing, and reporting financial data efficiently, while minimizing manual intervention and reducing the likelihood of administrative manipulation (Toumeh, 2022). Empirical evidence indicates a positive relationship between the implementation of ERP systems and the quality of financial reporting, particularly in terms of accuracy and reliability, which ultimately enhances organizational performance (Ou et al., 2018; Astuty et al., 2022; Akbar & Harahap, 2021; Kamdjoug et al., 2020; Kuntum, 2019; Murdihardjo et al., 2020; Olivia, 2021).

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

However, due to limited financial and technical resources, SMEs face challenges in adopting such systems (Razzaq & Mohammed, 2020). As a result, many are turning to CERP solutions, which have become an attractive option due to their lower operational costs, ease of access, and more straightforward implementation compared to traditional systems (AlGhazzawi, 2020). This trend is further supported by statistics showing that approximately 90% of businesses had adopted cloud computing solutions by 2019 (Øverdal et al., 2022).

While the implementation of CERP systems marks an important step towards digital transformation, it is not the ultimate goal (Omar et al., 2022). Achieving the desired outcomes requires continuous evaluation to ensure their effectiveness (Ravasan et al., 2018). This is especially important given the challenges these systems face, such as high subscription costs, lack of technical expertise, implementation complexities, and risks related to security and performance (Haddara & Elragal, 2022; Omar et al., 2022). Nonetheless, when successfully implemented, CERP systems can significantly enhance the quality of financial reporting, provide timely and accurate information for decision-making, and help prevent errors, delays in annual reports, and unnecessary resource wastage (Lutfi et al., 2022).

In this context, several researchers have used various theoretical models to evaluate the success of CERP system implementation, including the Technology-Organization-Environment (TOE) framework, the Technology Acceptance Model (TAM), the Diffusion of Innovations (DOI) theory, the DeLone and McLean (D&M) model, and the Theory of Reasoned Action (TRA). Each of these models focuses on different aspects of adoption and has been tested in various contexts (Saxena & McDonagh, 2019; Chang, 2020; Jo, 2022; Zebua & Widuri, 2023).

However, most of these studies have focused on the pre-implementation and implementation phases, with limited attention given to the post-implementation phase, where actual system performance is measured. Furthermore, there is still no unified and comprehensive framework for evaluating the quality of CERP systems after deployment, particularly in terms of their impact on the quality of financial reporting. This highlights the importance of studying this phase, especially for SMEs that face resource constraints, to ensure they achieve real value from investing in these systems. To the best of the researcher's knowledge, this aspect remains insufficiently explored within the Egyptian context. The following figure will illustrate this research gap.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

## **2. Aim and Objectives:**

The primary aim of this study is to propose a conceptual framework for evaluating the performance of CERP systems and their theoretical impact on the quality of financial reporting in SMEs. Accordingly, the study will pursue the following specific objectives:

- To develop a theoretical framework that integrates relevant information systems and accounting models to evaluate the post-implementation performance of CERP systems in SMEs.
- To explore and categorize key theoretical factors that may influence the effectiveness of CERP adoption in SMEs.
- To examine conceptually how effective implementation of CERP systems may enhance the quality of financial reporting in SMEs, focusing on key dimensions such as accuracy, timeliness, and reliability of accounting information.
- To provide a theoretical basis for future empirical research and policy development by offering a structured conceptual model to guide the assessment and implementation of CERP systems in the SME context.

## **3. Study Motivation:**

This study is motivated by the growing interest in enhancing financial reporting quality in SMEs through the theoretical exploration of CERP systems. The motivation for this study is further strengthened by the following:

- **Challenges in Financial Reporting in SMEs:** Many SMEs, particularly in emerging markets like Egypt, face substantial challenges in maintaining reliable and accurate financial reporting due to resource constraints and reliance on outdated practices. These challenges impair their ability to make informed decisions and access external financing, highlighting the importance of improving financial reporting systems.
- **Theoretical Gap in Post-Implementation CERP Evaluation:** Although existing studies have addressed the implementation of CERP systems, there is a noticeable gap in theoretical frameworks for evaluating their effectiveness post-implementation. This study aims to fill this gap by focusing on the conceptual phase after deployment, examining how CERP systems influence the quality of financial reporting.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- **Lack of Theoretical Research in Developing Countries:** While much of the research on CERP adoption and its impact has been conducted in developed economies, there is a lack of conceptual studies in emerging economies such as Egypt. This study seeks to provide a deeper understanding of how SMEs in Egypt can leverage CERP systems to enhance their financial reporting practices and overall organizational efficiency.
- **Enhancing Financial Reporting Quality:** By examining the theoretical connection between effective CERP systems and enhanced financial reporting quality, this study seeks to provide a more comprehensive understanding of how such systems can improve the accuracy, reliability, timeliness, and compliance of financial reports. This is crucial for making better decisions and promoting financial transparency in SMEs.
- **Supporting Policy and Practice:** This study also aims to provide practical, evidence-based recommendations for policymakers and SMEs in Egypt, guiding them toward better adoption and utilization of CERP systems. The ultimate goal is to contribute to Egypt's digital transformation agenda and improve the overall quality of financial reporting in the SME sector.

## **4. Theoretical Background**

### **4.1. Information Technology (IT) Integration in SMEs' Financial Reporting**

SMEs are critical drivers of economic growth, fostering innovation and job creation. However, while they benefit from strengths like flexibility and quick decision-making, they also face significant challenges and major structural and operational constraints (Makhlouf & Allal-Chérif, 2019; Mu & Schouteten, 2022; Mohamed, 2023). Among these, the lack of financial resources remains the most pressing challenge, affecting nearly every aspect of their development (Hammad & Saad, 2023). This issue is further exacerbated by SMEs' limited ability to produce reliable financial reports, which are essential for demonstrating creditworthiness to financial institutions (Amer & Selwaness, 2022; Mohamed, 2023). Financial institutions often require more than feasibility studies; they depend heavily on standardized and accurate accounting information, underlining the critical importance of proper financial reporting practices.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

In light of these challenges, recent research emphasizes the urgent need for SMEs to adopt digital transformation to enhance operational efficiency and financial transparency (Alam et al., 2022; Li et al., 2023). This aligns with Egypt's national efforts under Vision 2030, which recognizes digital transformation as a strategic priority for advancing SME capabilities (Egypt Vision, 2030). In this context, digital accounting has emerged as a key enabler of financial transparency and operational efficiency for SMEs. Digital accounting—defined as the use of ICT tools in financial management—enables businesses to streamline processes, reduce errors, and enhance the accuracy and timeliness of financial reporting (Phornlaphatrachakorn & Na-kalasindhu, 2021; Oladejo & Yinus, 2020).

This trend toward digital transformation can be further understood through theoretical lenses. Two key theories—System Theory and Institutional Theory—help explain the increasing adoption of digital tools in SMEs, particularly in the domain of financial reporting. Systems Theory, developed by Ludwig von Bertalanffy in 1950, views organizations as open systems that must continuously adapt to external changes—such as technological advancements—in order to survive and grow. It supports the argument that SMEs should integrate digital technologies to enhance the quality of financial reporting and meet the evolving needs of stakeholders (Akai et al., 2023).

In contrast, Institutional Theory, proposed by John Meyer and Brian Rowan in 1932, emphasizes the influence of social, legal, and cultural pressures on organizational behavior. According to this perspective, SMEs may adopt digital accounting practices not only to improve internal efficiency but also to gain legitimacy, conform to regulatory expectations, and align with prevailing norms within their business environment. Together, these theories suggest that digital transformation in SMEs is driven by both external adaptation and institutional conformity, offering a comprehensive explanation for its growing relevance in financial management (Qiu & Chen, 2023).

However, simply having access to digital tools is not enough. Successful implementation depends on aligning IT strategies with operational goals, training staff, securing digital infrastructure, and fostering a culture of ethical and professional accounting practices (Meiryani et al., 2020; Abdullah et al., 2023). When effectively implemented, digital systems enhance decision-making, reduce information asymmetry, and enable remote access to real-time financial data—factors critical for SMEs' growth and sustainability (Ambarwati et al., 2022; ElKelish, 2021; Oyedokun, 2023).

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

The COVID-19 pandemic further accelerated digital adoption by forcing SMEs to adapt to disruptions, remote work, and e-commerce. In Egypt, many SMEs struggled with business closures and operational setbacks; however, the crisis also prompted innovation and investment in digital solutions to help them survive (CHF MCSE, 2020; Khalil et al., 2022). This turning point reinforced the need for a strong digital infrastructure and the integration of advanced technologies in accounting to build resilience against future shocks.

#### **4.2. Recognizing the adoption of Cloud Enterprise Resource Planning by SMEs**

As noted in the previous section, investing in IT is essential for businesses, particularly for SMEs, as their accounting functions improve through IT innovation. In effect, leveraging IT innovation enables timely and precise reporting, thereby delivering the essential accounting and financial information needed by management for informed decision-making, which ultimately impacts the firm's operational performance.

ERP systems enhance financial and accounting information by providing technical assistance for data collection, processing, and reporting, and automating processes to reduce human interaction and opportunistic behavior. Additionally, the analytics functions integrated into ERP systems allow users to track data, create tailored reports, and evaluate their businesses' performance (Jawad & Balázs, 2024).

##### **4.2.1. ERP Systems in SMEs: Development, Benefits, and Barriers**

Enterprise Resource Planning (ERP) systems are considered the backbone of organizational information systems, widely used to support daily operations, enhance decision-making, and improve internal process efficiency (Alaskari et al., 2021; Ganapathy, 2018). The concept of ERP has evolved since the 1960s, beginning with inventory control programs, followed by the development of Material Requirements Planning (MRP) in the 1970s, and MRP II in the 1980s, which integrated financial and production functions. In the 1990s, ERP systems emerged as comprehensive solutions covering all core business functions (Rahardja, 2023; Jawad & Balázs, 2024). Later, ERP II systems were introduced to support e-business and facilitate integration with customers and suppliers (Katu, 2020).



**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

ERP is defined as a complex software system comprising various modules, such as accounting, HR, supply chain, and sales, that address diverse business needs (Jawad & Balázs, 2024). These systems are known to improve operational efficiency and employee productivity significantly (Hussain et al., 2024). The adoption of ERP systems is mainly driven by their ability to integrate processes, enhance efficiency, reduce costs, and support better decision-making (Alsharari et al., 2020; Ahmed et al., 2024). They also contribute strategically by enabling better planning, collaboration, and competitive advantage through digital integration (Bitkowska et al., 2024).

However, implementing ERP, especially in small and medium-sized enterprises (SMEs), presents significant challenges, including high costs, vendor dependency, extensive training requirements, and a lack of internal IT expertise (Sancar Gozukara et al., 2022; Ali et al., 2022; Ram et al., 2015; Nair et al., 2019). These challenges have led to the emergence of more affordable and flexible alternatives, most notably, CERP systems. CERP allows organizations to access IT applications hosted remotely by third-party providers, eliminating the need for physical infrastructure and making it a more practical solution for SMEs (Moh'd Anwer, 2018).

#### **4.2.2. Enterprise Resource Planning Systems Moving into Cloud Computing**

Cloud computing has emerged as one of the most transformative paradigms in information technology, offering scalability, flexibility, and efficiency that allow users to adjust resources with minimal third-party involvement (Alam, 2020). Its adoption grew significantly during the COVID-19 pandemic, enabling businesses to maintain continuity amid disruptions by supporting digital operations remotely (Golightly et al., 2022). Cloud computing's development dates back to early concepts like John McCarthy's 1961 vision of computing as a utility (Al-Mutawa & Saeed Al Mubarak, 2024), evolving with key milestones such as Salesforce's SaaS model in the late 1990s, Amazon's EC2 in 2006, and collaborative efforts like OpenStack in 2010 (Surbiryala & Rong, 2019; Alawbathani, 2024).

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

The National Institute of Standards and Technology (NIST) defines cloud computing as a model offering convenient, on-demand network access to a shared pool of configurable computing resources with minimal management effort (Golightly et al., 2022). Egypt, leveraging its geographic advantage and strong digital infrastructure, has made significant strides in cloud adoption, with initiatives led by IBM and the ITIDA aiming to position the country as a cloud computing hub in the MENA region (ElSayed, 2020; Kamel & Abouseif, 2015). A SWOT analysis by ElSayed (2020) further illustrates that cloud computing can reduce costs, improve accessibility, and support sustainability, though challenges like security and user awareness persist.

Cloud computing's distinct features—broad network access, on-demand self-service, rapid elasticity, resource pooling, and measured services—make it an attractive alternative to traditional IT systems (Surbiryala & Rong, 2019; Jayeola et al., 2022; Bania & Geradin, 2024). These features enable organizations to cut IT costs, improve collaboration, and enhance business continuity. Cloud services are typically delivered via three models: Infrastructure as a Service (IaaS), which offers computing infrastructure (Nguyen & Liaw, 2022); Platform as a Service (PaaS), which provides an environment for application development (Simmon, 2018); and Software as a Service (SaaS), which allows businesses to access applications online without local installations (Attaran & Woods, 2018).

In addition to service models, cloud deployment types include public, private, hybrid, and community clouds. Each model offers different levels of security, cost, and accessibility depending on business needs (Vafamehr & Khodayar, 2018; Raut et al., 2017; Mgbatogu, 2021; Shaheen, 2021c). Given the financial and operational challenges of traditional ERP systems, CERP has become a practical solution for SMEs, offering affordability, scalability, and ease of implementation (Carlsson et al., 2022). According to Yasiukovich and Haddara (2020), the majority of organizations now favor CERP over on-premise systems due to its lower costs and faster deployment.

CERP systems offer SMEs cost savings, improved data reliability, enhanced security, optimized time-to-market, and increased collaboration. These systems also relieve businesses from managing infrastructure and applications internally, allowing them to focus on strategic activities (Jain & Singhal, 2019; Quah et al., 2022). To better understand the implementation process, Markus and Tanis's (2000) lifecycle model—consisting of chartering, project, shakedown, and onward & upward phases—has been widely adopted in CERP research (Demi & Haddara, 2018; Hassanien & Elragal, 2021).

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

The chartering phase involves strategic decisions such as budget approval, model selection, and deployment choice (Yasiukovich & Haddara, 2020). The project phase includes system configuration, testing, and user training, typically managed by vendors (Alsharari et al., 2020). During the shakedown phase, the system stabilizes, and users begin normal operations. The onward and upward phase, on the other hand, encompasses system maintenance, upgrades, and performance monitoring (Hansen et al., 2023).

Despite its benefits, implementing CERP presents various challenges, particularly for SMEs. Customization needs can escalate costs, especially when there is limited vendor flexibility in public clouds (Gupta et al., 2017; Mohamed, 2023). Vendor lock-in and high switching costs create dependency issues (Paulsson & Johansson, 2023), while compliance with regulations remains inconsistent and often overlooked (Abd Elmonem et al., 2016). Integration challenges, particularly for businesses with complex systems, further complicate implementation (Haddara et al., 2022). Data extraction issues, especially in public clouds, can affect performance and security (Alsafi & Fan, 2020).

Moreover, SMEs often struggle with organizational readiness and resistance to change, which hinders smooth adoption (Seethamraju, 2015; Small, 2016). Security concerns persist as sensitive data is managed by third-party providers (Alsafi & Fan, 2020), and performance and reliability are also questioned due to connectivity and infrastructure limitations (Gupta et al., 2017; Mazumdar, 2018). Therefore, although CERP systems offer flexible and cost-effective alternatives to traditional ERP, their successful adoption requires SMEs to address significant technical, organizational, and regulatory challenges. Given these complexities, assessing the success of CERP implementation becomes crucial to ensure these systems deliver the expected value. Accordingly, the next section will examine established theoretical models and frameworks used to evaluate information system success, offering a foundation for understanding and measuring the effectiveness of CERP solutions in practice.

#### **4.2.3. Key Theories and Models of Technology Adoption and Success**

As previously mentioned, CERP systems enable organizations to reap the benefits of ERP without incurring significant IT infrastructure investments. They also reduce the pressure on IT departments by only necessitating the cost of ERP software (Huang et al., 2021). However, the implementation of CERP remains complex, requiring careful consideration of various success factors. Just as in previous eras of information systems, successful implementation is critical to

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

achieving business success (Flack & Dembla, 2021). Therefore, measuring the success of current systems is essential, especially understanding why a technology is accepted or rejected by users, as this can lead to successful implementation and development (Taherdoost, 2019; Matar et al., 2020), particularly for service-oriented technologies like CERP (Gangwar & Ramaswamy, 2015; Kamal, 2020).

As a result, researchers have analyzed various theories and models to understand the determinants of information system success. However, early attempts were vague due to the complex, interdependent, and multidimensional nature of IS success (Ocar & Aggarwal, 2019). Among the models discussed in the literature is the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975), which links beliefs, behavior, and intentions. This model, however, focuses on predicting individual motivations before system adoption, rather than assessing post-implementation success (Mi et al., 2018). Therefore, it was not considered suitable for this study.

Similarly, the Technology Acceptance Model (TAM) by Davis (1989) is widely used due to its simplicity and widespread application in technology adoption studies (Palos et al., 2017; Gangwar & Date, 2016). TAM focuses on perceived usefulness and ease of use from the user's perspective (Au & Zafar, 2008), but it has limitations that make it less suitable for this study. It primarily focuses on individual users' perceptions and behaviors, which are subjective and may not accurately represent the broader organizational context. TAM overlooks organizational factors such as management support, culture, and cost considerations, which are crucial to the success of CERP adoption (Dube et al., 2020). Additionally, TAM emphasizes user behavior rather than the quality of the information system itself, an essential aspect for assessing post-implementation success. Therefore, while TAM is useful for understanding adoption intentions, it does not offer a comprehensive framework for evaluating the long-term success of CERP systems.

The Unified Theory of Acceptance and Use of Technology (UTAUT), proposed by Venkatesh et al. (2003), integrates eight models to explain technology use behavior (Persada et al., 2019). It is effective in explaining user intentions and behavior, accounting for approximately 70% of the variance in technology adoption intent (Kalavani et al., 2018). However, UTAUT primarily focuses on predicting adoption behavior rather than assessing the success of post-implementation systems (Alshare et al., 2019), making it unsuitable for this research.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

In contrast, the Technology-Organization-Environment (TOE) framework, proposed by Fleischer and Tornatzky (1990), offers a comprehensive approach to technology adoption decisions, incorporating technological, organizational, and environmental factors (Ahmed, 2020; Okour, 2022). This model is well-suited for evaluating the success of systems post-adoption, as it encompasses all relevant contexts, including the external environment and organizational characteristics. It has been successfully applied to cloud computing studies (Ghobakhloo & Tang, 2015; Hossain & Quaddus, 2011; Dube et al., 2020).

Additionally, the DeLone and McLean Information Systems Success Model (D&M) is one of the most widely used frameworks for assessing IS success. Initially proposed in 1992 and updated in 2003 (Tam & Oliveira, 2016; Ravasan et al., 2018), this model evaluates success based on system quality, information quality, usage, user satisfaction, and organizational impact (Cheng, 2019). However, it faced criticism for neglecting service quality and for treating personal success as a guarantee of organizational success (Çelik & Ayaz, 2022).

In the 2003 update, DeLone and McLean introduced service quality and consolidated the impact factors into a broader construct of net benefits (Yu & Qian, 2018; Çelik & Ayaz, 2022). This updated model is more comprehensive and has been widely applied in various studies of IS success. It offers a flexible framework that can be adapted to assess different types of information systems, including CERP. This model is beneficial for evaluating how CERP impacts individuals, organizations, and groups (Phalaagae, 2017; Mehta et al., 2021; Mkhonto & Zuva, 2023).

However, the D&M model has been criticized for ignoring certain organizational factors that influence IS use and user satisfaction (Jo & Bang, 2023). To address this limitation, the researcher suggests integrating the D&M model with the TOE framework, as recommended by Ghobakhloo & Tang (2015), for a more comprehensive understanding of IS success in SMEs.

#### **4.3. CERP and Financial Reporting Quality**

As previously noted, recent advancements in technology have significantly transformed financial and accounting operations, particularly through the adoption of CERP systems. These systems have emerged as a more flexible and efficient alternative to traditional accounting methods, including conventional centralized ERP systems, offering enhanced data accuracy, real-time reporting, and operational efficiency—all of which contribute to improving the quality of financial reporting.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

Under agency theory, ERP systems help mitigate conflicts of interest between principals (such as shareholders) and agents (such as managers) by reducing information asymmetry and enhancing transparency. Systems theory also highlights the role of ERP systems in centralizing business functions and delivering reliable, up-to-date financial data, thus supporting better decision-making and fostering stakeholder trust (Nguyen & Dang, 2023a; Paredes & Wheatley, 2018; Almustafa et al., 2023). These systems have also been shown to reduce opportunities for manipulation, support compliance with accounting standards, and enhance internal controls by automating and standardizing financial processes (Abedifar et al., 2019).

When ERP is integrated with cloud computing, the benefits are amplified. CERP systems offer greater flexibility to adapt to changing business environments and regulatory demands, high scalability to manage increasing volumes of financial data, and real-time accessibility across devices and locations. These features not only improve collaboration and financial decision-making but also contribute to the production of more accurate, timely, and reliable financial reports (Ahmad et al., 2024; Tamunotonye & Fred-Horsfall, 2023; Wahhab et al., 2024).

Despite these advantages, several challenges remain. Data security is a primary concern, especially given the reliance on third-party cloud service providers, which may lead to system vulnerabilities. Integrating CERP systems with legacy financial platforms can result in data inconsistencies, while frequent system updates and real-time data flows may overwhelm users and disrupt financial processes. These issues can affect the consistency and reliability of financial reporting outcomes (Gupta & Gaur, 2018; SAHA et al., 2020; Gade & Rao, 2022).

Therefore, developing a conceptual framework that links CERP system performance with financial reporting quality is essential. Such a framework helps identify the critical success factors for effective implementation. It ensures that CERP systems meet the increasing demands for transparency, reliability, and compliance in financial reporting, particularly within the small and medium-sized enterprise (SME) sector.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

## **5. Previous Studies and Related Research**

This section reviews the literature published between 2015 and the present, ensuring a timely and relevant exploration of state-of-the-art technologies and the most recent studies addressing the challenges and developments in CERP adoption. The selected timeframe enables the capture of the evolving nature of CERP systems and their implications in real business environments (Øverdal et al., 2022). Based on this review, a conceptual framework will be developed to guide the theoretical exploration and support the study's objectives.

**Accordingly, the reviewed literature in this section is categorized as follows:**

5.1. Literature Review on the Assessment of Cloud Enterprise Resource Planning Systems.

5.2. Literature Review on Cloud Enterprise Resource Planning System Success and Its Impact on Financial Reporting Quality

**Each of the previously mentioned sub-groups will be discussed in the following sections.**

### **5.1. Literature Review on the Assessment of Cloud Enterprise Resource Planning Systems**

Evaluating the performance of information technology systems in general, and ERP systems in particular, presents a significant challenge due to their complexity. ERP systems differ from others because they require deep integration with various systems within an organization, such as accounting, human resources, marketing, and others (Salih et al., 2022).

Assessing CERP's success is more complicated because it depends on external providers, uses a multi-tenant setup, and requires ongoing management of cloud resources. This reliance on third-party vendors and the evolving cloud environment makes evaluating CERP's performance harder than traditional ERP systems (Kuhn Jr, 2024).

On the other hand, high levels of failure in CERP implementation necessitate a deeper understanding of organizational processes to mitigate problems and, if possible, prevent unsuccessful implementations (Huang et al., 2021). With this in mind, several studies have sought to evaluate the success of CERP systems in organizations, both during the pre-implementation and post-implementation phases.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

Reviewing previous studies in the previous table reveals that some research has relied solely on existing literature or fundamental factor analysis without grounding the evaluation in comprehensive theoretical frameworks to assess the success of CERP systems. Examples of such studies include Pratiwi & Sfenrianto (2024), Mahasib (2024), Hong et al. (2024), Juturi (2023), Chu & Nuyen (2022), Saxena & Verma (2022), Salih et al. (2022), and Tongsuksai et al. (2021). These studies emphasize several critical success factors, particularly within the organizational, technological, and environmental domains.

From a **Technological Perspective**, key success factors for the implementation and performance of CERP systems include system quality and information quality, with an emphasis on data protection and system integrity, which are essential for building trust among users (Jo & Bang, 2023; Juturi, 2023; Salih et al., 2021; Saxena & Verma, 2022). Furthermore, factors such as accessibility, ease of use, and availability are particularly critical for SMEs, given their limited resources and need for user-friendly solutions (Barbieri & Sott, 2025; Juturi, 2023; Øverdal et al., 2022). In addition, adequate training and education play a vital role in ensuring the effective use of CERP systems and facilitating change management processes (Mahasib, 2024; Chu & Nuyen, 2022). Scalability and customization are also crucial, as they enable the system to grow with the organization and adapt to its evolving needs (Kuhn, 2024; Pratiwi & Sfenrianto, 2024; Ahn & Ahn, 2020; Øverdal et al., 2022). From an **Environmental Perspective**, the support provided by vendors and the characteristics of the vendor are central to ensuring service quality and the overall success of the system (Tongsuksai et al., 2021; Salih et al., 2022). Vendor competencies, strategic alignment with the organizational goals, and the quality of the client-provider relationship are particularly influential in shaping the success of CERP implementations. From an **Organizational Perspective**, the support of top management is consistently identified as a critical enabler of successful system implementation (Pratiwi & Sfenrianto, 2024; Mahasib, 2024; Chu & Nuyen, 2022). Effective leadership and commitment from top management facilitate the alignment of CERP with organizational goals and foster a culture of adoption across the enterprise.



**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

A review of this relevant literature reveals that **many studies, which are not based on a specific theoretical framework, tend to evaluate CERP performance from a limited perspective—either by focusing on a single perspective or by combining two perspectives with a narrow set of variables.** For instance, some studies have focused solely on the organizational dimension (e.g., Mahasib, 2024; Hong et al., 2024; Tongsuksai et al., 2021), while others have examined a combination of organizational and environmental factors (e.g., Chu & Nuyen, 2022; Saxena & Verma, 2022; Salih et al., 2022). Additionally, research by Pratiwi and Sfenrianto (2024) considered both technological and organizational dimensions, whereas Juturi (2023) explored the environmental and technological dimensions. This suggests that relying only on prior studies without a theoretical or conceptual framework can limit the comprehensiveness of the evaluation model. In this regard, Usman et al. (2019) and Barbieri & Sott (2025) emphasize the need for a comprehensive model that considers innovation factors in conjunction with the TOE dimensions to more effectively address the unique challenges of CERP adoption in SMEs. Therefore, other studies have turned to the use of established theories to assess system quality more effectively.

Utilizing well-established theories helps provide a deeper and more structured understanding of the critical factors influencing system success (Huang et al., 2021). By relying on theoretical models such as the Technology-Organization-Environment (TOE), Technology Acceptance Model (TAM), Diffusion of Innovations (D&M), Relative Deprivation Theory (RDT), or Diffusion of Innovations (DOI), researchers can examine multiple dimensions of implementation in an integrated manner.

A prominent framework used in many of these studies is the TOE framework. For instance, (Barbieri & Sott, 2025), (Barbieri et al., 2024), (Okour, 2022), (Jayeola et al., 2020), (AlBar & Hoque, 2019), (Small, 2016), (Seethamraj, 2015) used the TOE framework to examine the interaction between technological, organizational, and external environmental factors affecting CERP adoption. These studies highlight the comprehensive nature of the TOE framework in assessing CERP implementation across different organizational contexts. **However, relying on a single framework such as TOE may be insufficient, especially when dealing with complex systems like CERP (Jo & Bang, 2023).**

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

Therefore, expanding the analytical scope through the integration of multiple theories can offer a more robust and nuanced understanding.

To overcome the limitations of relying solely on the TOE framework, several studies have adopted an integrated approach by combining multiple theories to provide a more comprehensive understanding of CERP adoption. For example, Omar et al. (2022), Mahraz et al. (2020), and Ahn & Ahn (2020) combined TOE with the Diffusion of Innovation (DOI) theory to explore both innovation-related and contextual factors. Gupta et al. (2018) integrated Theory of the Firm (TOE) with Resource Dependence Theory (RDT) to highlight the influence of external resources and market dynamics. Similarly, Naveed et al. (2021) merged TOE, TAM, and DOI to assess technological readiness, culture, and user acceptance. Nguyen and Luc (2018) adopted a broader approach by combining UTAUT, TAM, and the DeLone and McLean model to assess system quality, service quality, information quality, and perceived risk.

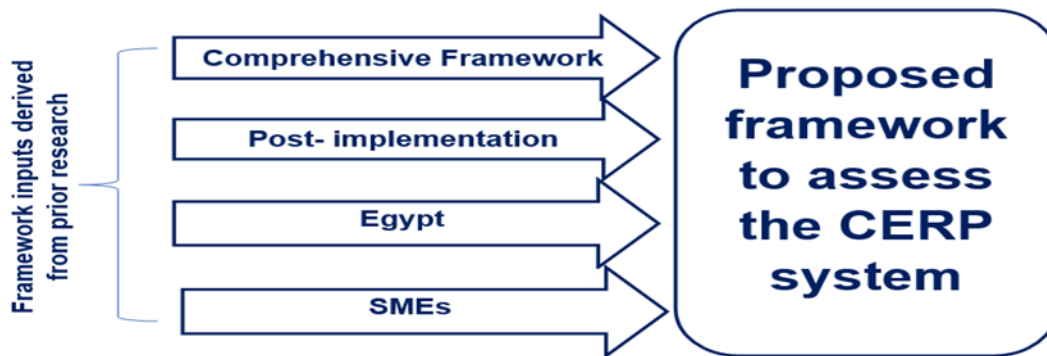
While integrating multiple theoretical frameworks has contributed to a more holistic understanding of the factors influencing CERP adoption, another key gap in the literature lies in the timing of system evaluation. However, these studies were not conducted in the Egyptian context, with Okour (2022) focusing on Oman, and Nguyen & Luc (2018) conducting their research in Vietnam. This creates a new research gap, as there is a lack of a comprehensive framework for evaluating CERP systems in the post-implementation phase for small and medium-sized enterprises (SMEs) in Egypt.

Based on the above, it can be concluded that there is no unified framework for system evaluation. However, it is preferable to rely on a **specific theoretical framework for evaluating the system**, and even better, to integrate multiple theories for a more comprehensive and effective evaluation, especially when dealing with complex systems like ERP. Additionally, greater emphasis should be placed on the post-implementation phase, as most studies have primarily focused on the pre-implementation phase. The actual performance of the system is revealed only after implementation, making this phase critical for understanding the system's real-world impact.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

As the literature review reveals, there is a lack of studies focused on SMEs in general, and particularly in the Egyptian context. This gap is particularly noticeable when considering post-implementation evaluations, which are even more limited in SMEs. Therefore, these points should be considered when developing a framework for evaluating ERP systems in small and medium-sized enterprises in Egypt.

When developing the proposed framework, it is crucial to address the research gaps previously identified. As shown in the following figure, these gaps involve the necessity for a more thorough evaluation method, dependence on theoretical bases—especially the TOE framework, which is common in earlier studies—and the narrow emphasis on post-implementation assessment of CERP systems, particularly in the setting of SMEs.



**Figure 1: Inputs of the Proposed Framework for CERP Evaluation Based on Previous Studies**

Building on the identified gaps, particularly in the Egyptian context and post-implementation evaluations for SMEs, the next section will review literature on CERP success factors and their impact on financial reporting quality. This study aims to investigate how CERP systems improve the accuracy, reliability, and timeliness of financial information in SMEs, offering insights for developing an evaluation framework for SMEs in Egypt.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

## **5.2. Literature review related to CERP success and Financial Reporting Quality**

SMEs are often considered a vital driver of long-term economic growth in emerging economies. However, these businesses face several challenges that hinder their ability to make a substantial impact on national economies. One of the most significant challenges identified is the issue of accounting information and financial reporting. Building on this understanding, the researcher examined the existing accounting practices and financial reporting in SMEs across Egypt and other developing countries. The goal was to gain insight into the challenges these businesses face, assess their development needs, and identify the key elements of the proposed solutions.

Many SMEs in developing countries face challenges related to weak accounting practices, often failing to maintain accurate financial records or effectively use accounting information for decision-making. Studies by Madurapperuma et al. (2016) in Sri Lanka and Asaduzzaman (2016) in Bangladesh show that most SMEs do not maintain proper bookkeeping, a trend observed in countries such as Palestine, Ghana, Ethiopia, Indonesia, Nigeria, and Zimbabwe, where accounting records are mainly kept for legal compliance rather than for planning or control (Charles, 2017; Nyathi et al., 2018; Kahsay & Zeleke, 2019; Justice & Tetteh, 2017; Talahmeh, 2020; Hanifah et al., 2020; Theresia & Ridwan, 2021).

In Egypt, similar issues persist, with Mohamed et al. (2018) and Shaimaa (2016) reporting that most SMEs fail to comply with national accounting standards. Saleh (2017) identified a lack of basic accounting skills as a significant barrier to the development of SMEs. Even when financial data is available, the lack of expertise hampers its practical use. Additionally, Abouelghit and Gan (2022) noted that many Egyptian SMEs maintain minimal documentation, further complicating the auditing process. These challenges lead to the underutilization of financial information, hindering decision-making and reducing the benefits of adopting modern information systems.

Building on the findings and observed weaknesses in accounting practices among SMEs, numerous studies have explored the underlying causes of poor-quality financial information. Justice & Tetteh (2017), Ezeagba (2017), Kahsay & Zeleke (2019), Garedeu (2019), Gebremedihin (2019), Talahmeh (2020), Hanifah et al.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

(2020), and Abouelghit & Gan (2022) identified several key barriers hindering SMEs from preparing reliable financial reports. These include a lack of accounting skills, distrust from owners or managers, the high perceived cost of employing qualified professionals, and concerns about full financial disclosure to authorities. These challenges further limit the use of accounting information and discourage SMEs from adopting formal financial systems.

**Based on the above, it is evident that the majority of SMEs lack both sound accounting practices and reliable financial reporting**, due to a variety of factors. These include limited awareness of the importance of financial reports, insufficient accounting experience, lack of financial resources, and the perceived complexity of the accounting process. While these enterprises may not prioritize financial reporting, they often encounter significant obstacles when seeking external financing, as banks typically require formal financial statements for loan approval.

In this context, the researcher argues that the adoption of information technology represents a critical enabler for SMEs to develop effective accounting information systems and produce accurate financial reports. However, the decision to invest in such technologies should be guided by an understanding of their potential benefits and alignment with the specific needs of SMEs. Therefore, the following section reviews relevant studies addressing the role of information technology in enhancing financial reporting within SMEs.

Several previous studies have examined the impact of information technology (IT) on the quality of financial reporting in SMEs. Research by Shiraj (2015) and Abrokwah et al. (2015) concluded that the use of IT in financial reporting is not only a practical strategy for enhancing accounting practices but also contributes to gaining a competitive advantage and improving overall business performance. These findings are supported by Ghaffar et al. (2019), Fordham & Hamilton (2019), Hanifah et al. (2020), Wiralestari et al. (2020), Phornlaphatra & NA (2021), Oyedokun et al. (2023), and Kusumawardhani et al. (2024), who noted that greater IT usage reduces reporting errors and leads to higher-quality financial reports.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

In line with this trend, Supriyati et al. (2022) emphasized that increased use of IT enhances the quality of accounting information and highlighted the importance of ongoing technological development. Similarly, Faccia et al. (2023) outlined several benefits of IT adoption in accounting, including streamlining financial operations, improving the speed and accuracy of financial data processing, enabling real-time access to reports, and facilitating compliance with regulatory requirements.

Since the COVID-19 pandemic, there has been a noticeable shift towards digital accounting systems (DAS). Researchers such as Lohapan (2021), Ainasrallah & Saleem (2021), Hasbolah et al. (2021), and Supriyati et al. (2022) have advocated for the adoption of Digital accounting system to help SMEs manage uncertainty. Julianto et al. (2022) further found that digitized systems significantly benefited MSMEs during the pandemic by accelerating transactions, optimizing labor, enabling owner oversight, simplifying marketing, and providing instant financial information.

However, some studies offer a contrasting view. Wafa et al. (2023) and Theresia & Ridwan (2021) found that IT adoption had limited influence on the quality of financial reporting among SMEs, primarily due to low levels of implementation. They recommend that SMEs select accounting software aligned with their operational needs and financial capacity, ensure it includes key features such as automated bookkeeping and real-time reporting, and invest in proper staff training. Additionally, collaboration with accounting and IT professionals is essential to identify suitable IT infrastructure and systems tailored to SMEs' specific requirements.

At the level of Egyptian studies, Osman (2021) concluded that the use of information technology has a significant impact on the development of accounting information systems within SMEs. Similarly, Mustafa (2023) found that increased digitalization enhances the timeliness of financial reporting, indicating that the higher the degree of digitalization, the shorter the time required to prepare financial reports.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

After reviewing the previous studies on the development and current state of financial reporting, the researcher concludes that **SMEs need to adopt information technology—particularly in response to challenges posed by the COVID-19 pandemic—to improve the quality and efficiency of their financial reporting.** Among the most widely used tools in this context is the ERP system (Mohamed, 2023). The relationship between ERP systems and financial reporting has been widely explored in the literature, yielding mixed results. While some studies highlight both positive and negative effects, the majority agree that ERP systems generally enhance the quality of financial reporting. This improvement is often reflected in streamlined accounting processes and improved performance of accounting staff.

Several studies have examined the impact of ERP systems on financial reporting and accounting practices, with a consensus that ERP systems have a positive influence on these areas. Research conducted in Indonesia by large firms (Murdihardjo et al., 2020; Akbar & Harahap, 2021; Olivia, 2021) has concluded that ERP systems enhance financial reporting by facilitating the processing of financial transactions and the preparation of financial statements, thereby enabling companies to understand their financial position and performance better. Similarly, AlMuhayfith and Shaiti (2020) and Kamdjoug et al. (2020) found that ERP systems enable businesses to access accounting information and prepare financial statements efficiently. Studies by Ou and Zhou (2018), Kuntum (2019), and Astuty et al. (2022) indicate that ERP deployment has a positive impact on the reliability of accounting information. However, larger firms, with greater resources and external funding, are better positioned to afford the high costs of ERP implementation, which can lead to higher returns in terms of improved accounting accuracy.

Further research has explored the effect of ERP systems on earnings management (EM). Patnaik et al. (2019), Toumeh (2022), and Rokhaniyah et al. (2023) found that organizations without ERP systems are more likely to engage in real-based EM. Dehning et al. (2017) discovered that ERP implementation can reduce GAAP violations. However, Pervin et al. (2019) and Weshah et al. (2021) noted an adverse effect of ERP systems on the verifiability and faithful representation of accounting information, suggesting that ERP systems may inadvertently promote earnings management.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

On the other hand, research by Shafakheibari and Oladi (2015), Ou and Zhou (2018), Indra and Noorlailie (2018), and Abd El-Halim (2020) compared companies that adopted ERP systems with those that did not. They found significant differences in the relevance of accounting information, particularly in terms of predictive value, timeliness, and feedback value, as well as overall company performance. The implementation of ERP systems was found to have a more substantial influence on the relevance of accounting information.

In addition, the impact of ERP on the role of accountants has been highlighted. Ahmad et al. (2016) noted that ERP systems allowed accountants to focus more on financial analysis and decision-making, as they spent less time on data entry. Similarly, Todorović & Čupić (2023) concluded that ERP systems improve the efficiency and performance of accountants, although satisfaction with the system was reported to be relatively low.

Based on the findings from the aforementioned studies, the researcher concluded that the **implementation of an ERP system has a positive impact on the quality of financial reporting** in several ways, including enhancing the characteristics of accounting information and improving the role of accountants. It is also important to note that most studies on ERP have been conducted in large enterprises, with relatively few focusing on SMEs. This is likely due to the significant challenges SMEs face in selecting and implementing an ERP system. However, the rise of cloud computing and the introduction of CERP systems have greatly expanded the ability of SMEs to adopt ERP systems, primarily due to the lower costs associated with CERP compared to traditional systems.

Several prior studies have examined cloud computing from various accounting perspectives, emphasizing its value in accounting information technology and its role in facilitating real-time access to accurate information. In light of this, the following section provides an overview of the literature regarding the benefits of cloud computing for accounting.

According to the findings of these studies, cloud computing has been shown to enhance the quality of financial reporting significantly. Studies by Khomonenko and Gindin (2016), Coyle and Nguyen (2018), Owolabi and Izang (2020), and Al-Nsour et al. (2021) emphasize that cloud computing enables employees to access financial data from anywhere at any time, thereby ensuring better accessibility and flexibility in accounting processes. Additionally, Ionescu (2019) highlighted the transformative impact of cloud technology on the way accountants interact with clients and communicate fiscal information to tax authorities.



**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

Authors such as Onyali (2016) and Uko et al. (2023) have further emphasized the role of cloud computing in enhancing the quality of financial reporting. By offering updated applications and reducing capital costs, cloud computing enhances operational efficiency. Yau-Yeung et al. (2020) noted that cloud accounting enables SMEs to access advanced technology comparable to that of larger competitors, thereby enhancing competitiveness and ensuring reliable and relevant financial reporting across branches without incurring additional costs.

Mohamed (2018) and Shakatreh et al. (2023) also found that the use of cloud computing has a positive impact on key financial report elements, particularly comparability and reliability, thereby improving overall financial reporting quality. On the other hand, Ogunsola (2021) and El-Mousawi and Jaber (2023) emphasized the importance of SMEs adopting cloud accounting to improve their financial reporting and performance. They recommended management support and addressing security concerns associated with cloud technology.

Despite the widespread acknowledgment of the benefits of cloud computing and ERP systems, the integration of these technologies remains underexplored, with a few exceptions such as studies by Toumeh (2025) and Amara (2023). These studies focused on the impact of CERP systems on financial reporting, finding a significant negative association between CERP systems and accrual-based earnings management.

Based on the previously discussed studies, it is evident that most research examining the impact of CERP systems on the quality of financial reporting has primarily focused on the mere implementation or presence of the system, without assessing the actual success of the system or the underlying factors that contribute to this success. This highlights a significant research gap, as information technology systems—including ERP—can face challenges or even fail after implementation, a concern supported by studies such as AlBar & Hoque (2019) and Salih et al. (2022). Consequently, some recent studies have shifted their focus toward evaluating both the effectiveness of the system and its influence on the quality of financial reporting and accounting information.

In the field of accounting information systems and financial reporting quality, several scholars argue that high-quality accounting information cannot exist without a high-quality accounting information system. As Al-Okaily (2021)

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

points out, an effective AIS ensures timely, accurate, and relevant financial reporting, producing reliable records that support informed decision-making and ultimately improve firm performance. Conversely, the failure of an accounting information system can result in operational disruptions and financial losses (Ayoub et al., 2019).

Numerous studies have confirmed the impact of accounting information system effectiveness on the quality of accounting information and financial reporting. For instance, Bachmid (2016) and Algrari & Ahmed (2019) concluded that the quality of AIS directly influences the quality of accounting information. Similarly, Alzoubi (2017) found that successful AIS implementation enhances the relevance of financial information and reduces decision-making uncertainty.

Fitriati & Mulyani (2015) emphasized that a successful accounting information system produces accounting information that is relevant, accurate, timely, and complete—key characteristics needed for effective decision-making. In the same vein, Tambingon et al. (2018) demonstrated that AIS quality has clear implications for financial reporting quality. Furthermore, Murdihardjo et al. (2020) highlighted that using ERP Dynamics, along with adequate training and resource management, enables automatic preparation of financial statements and improves reporting quality.

Beyond financial reporting, Sabti (2023) noted that the success of accounting information systems contributes to overall organizational performance, emphasizing the need for continuous development of AIS systems to align with user needs. This reinforces the conclusion drawn by Al-Okaily et al. (2020) and Genia et al. (2023), who stressed the importance of measuring AIS effectiveness as a foundation for improving system value and performance. Additionally, Fuadah & Setiyawati (2020) suggested that organizations should regularly evaluate and upgrade their existing information systems to align with evolving technologies. However, despite the recognized importance of AIS evaluation, Huy and Phuc (2020) noted that studies on measuring AIS effectiveness remain limited and subject to ongoing debate.

Based on the previous discussion, it is evident that implementing information technology systems—particularly CERP—plays a vital role in enhancing financial reporting, especially within the SME sector. Despite the potential

Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd

benefits, SMEs often face constraints such as limited resources and a lack of skilled personnel, which can hinder the successful adoption of systems. Moreover, as implementation failures can negatively impact financial reporting, evaluating the effectiveness of these systems becomes essential.

However, a clear research gap remains: while many studies acknowledge the benefits of CERP, few—if any—have specifically assessed its success and its direct impact on financial reporting quality within SMEs. Addressing this gap is crucial for generating more accurate insights into the role of CERP in enhancing financial outcomes. The following figure illustrates the key findings from previous literature and the rationale underpinning the present study.

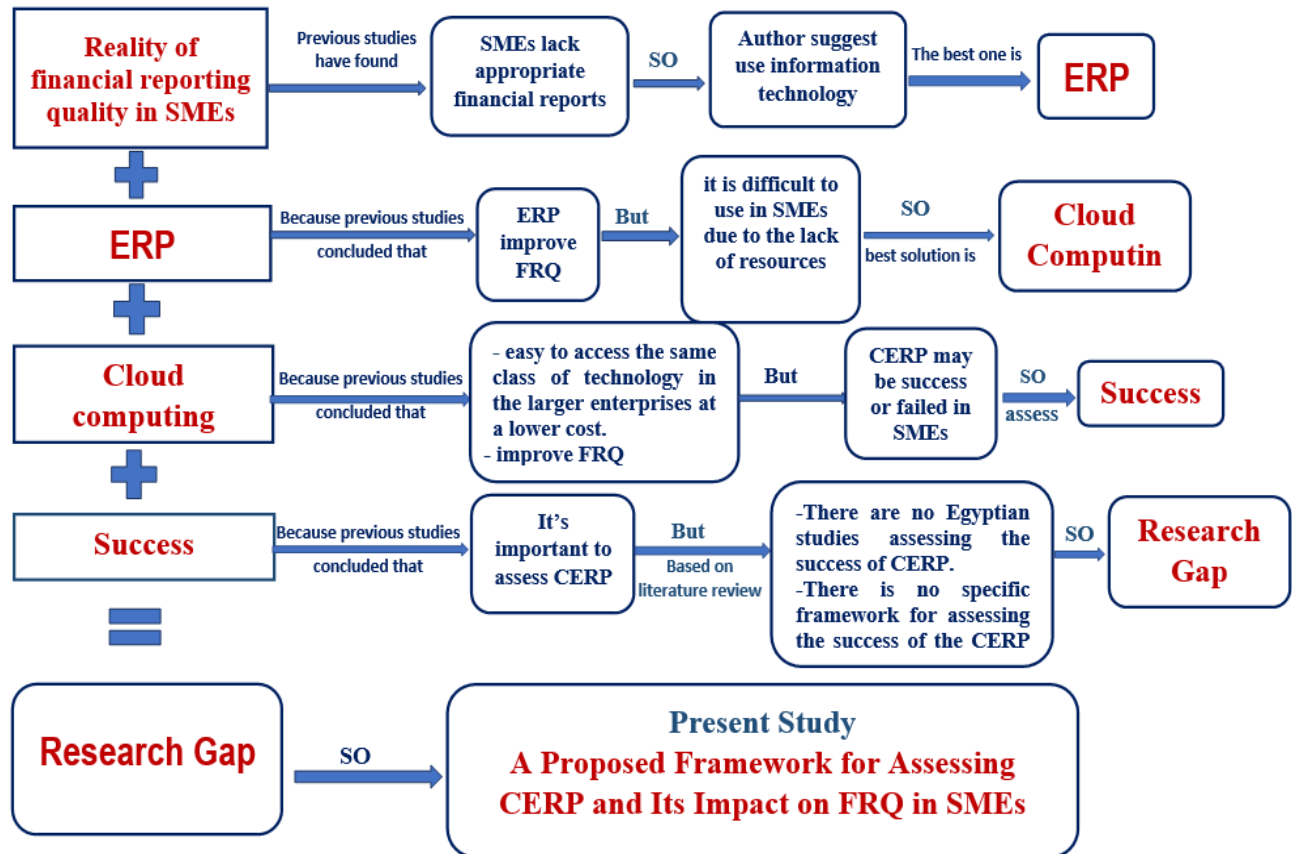


Figure 2: Summary of Previous Studies and Research Gap

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

As illustrated in Figure 2, prior research consistently highlights that SMEs face significant challenges in achieving appropriate financial reporting standards. In response, several scholars have suggested the adoption of ERP systems to address these shortcomings. However, given the limited financial and technical capacities of most SMEs, CERP (CERP) systems have emerged as a more practical and cost-effective alternative.

While CERP systems theoretically offer numerous benefits—including improved accuracy, timeliness, and comprehensiveness of financial reports—their successful implementation in SMEs is not inherently guaranteed. The effectiveness of CERP depends on various contextual factors, including system quality, user capabilities, organizational support, and vendor reliability. However, the literature reveals a lack of structured approaches or theoretical models that comprehensively assess the success of CERP systems within the SME sector, particularly in developing economies such as Egypt.

To address this theoretical gap, the present study develops a conceptual framework that integrates insights from prior literature on ERP success and financial reporting quality. This framework is designed to guide the evaluation of CERP system effectiveness and to explore its expected influence on the quality of financial reporting in SMEs.

## **6. Proposed Conceptual Framework**

Based on the findings of prior studies, it has become evident that the proposed framework for evaluating the quality of CERP systems in SMEs must be more comprehensive and grounded in multiple theoretical perspectives. Specifically, existing research highlights the need for a model that not only assesses system success during or after implementation but also explicitly evaluates its impact on financial reporting quality, a critical performance indicator for small and medium-sized enterprises. In response to these research demands, the current study proposes an integrated framework that combines the Technology–Organization–Environment (TOE) framework with a modified version of the DeLone and McLean Information Systems Success Model (ISSM).

This integrated framework is justified by the complementary strengths of the two models. The TOE framework captures the internal and external contextual factors—namely, technological, organizational, and environmental elements—

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

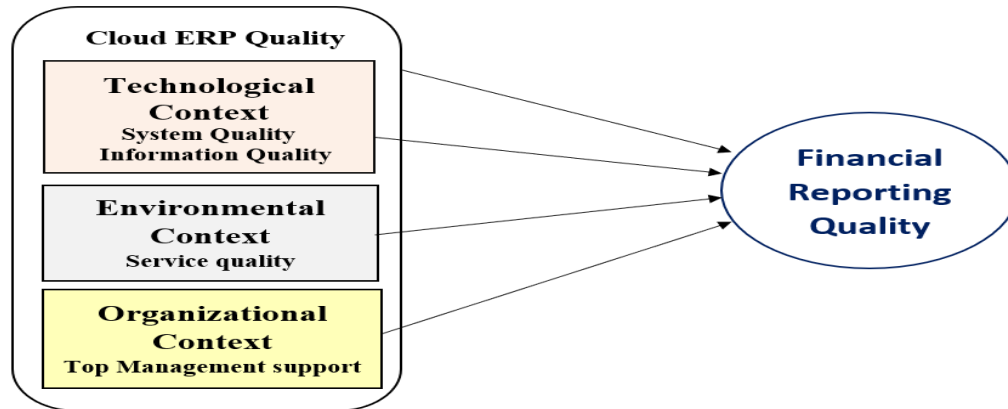
that influence the adoption and effective use of information systems. Meanwhile, the ISSM offers a structured approach to evaluating system success through its original dimensions: system quality, information quality, service quality, system use, user satisfaction, and net benefits (DeLone & McLean, 2003, 2016).

However, in alignment with previous critical reviews, this study modifies the ISSM by excluding two intermediate constructs—system use and user satisfaction—due to their limited relevance in mandatory-use environments such as CERP in SMEs. Scholars have argued that system use is not an appropriate success metric when usage is compulsory, and that user satisfaction may not fully capture the organizational value derived from such systems (Bernroider, 2008; Ifinedo et al., 2010; Gable et al., 2008). Moreover, prior research has demonstrated that system quality and information quality can serve as better proxies for user satisfaction (Urbach & Müller, 2012; Gorla et al., 2010).

Accordingly, this study retains three quality constructs from the ISSM—System Quality (SQ), Information Quality (IQ), and Service Quality (SVQ)—and supplements them with Top Management Support (TMS), drawn from the organizational dimension of the TOE framework. The inclusion of TMS is also theoretically underpinned by Leadership Theory, which emphasizes the central role of executive support in facilitating successful system implementation and improving performance outcomes such as financial reporting quality (Setyaningsih et al., 2021; Entsie et al., 2025).

In this framework, System Quality and Information Quality represent the technological context, focusing on system reliability and the accuracy and usefulness of output data. Top Management Support reflects the organizational context, highlighting leadership's role in resource allocation, strategic alignment, and post-implementation success. Service Quality is situated within the environmental context, given the reliance on external vendors for support in CERP systems.

Ultimately, this study positions Financial Reporting Quality (FRQ) as the key performance outcome, representing the Net Benefits dimension in the modified ISSM. By assessing how SQ, IQ, SVQ, and TMS affect FRQ, the framework not only evaluates CERP success more holistically but also addresses the critical research gap in the literature: the absence of a validated model that links CERP system characteristics to the quality of financial reporting in SMEs, especially in the context of developing economies. Accordingly, the following figure illustrates the proposed conceptual framework.



**Figure 3: Proposed Conceptual Framework**

Following the proposed conceptual framework, the subsequent section provides a detailed explanation of its key components, supported by prior studies. This aims to clarify the theoretical foundations and demonstrate the relevance and interconnection of each element within the framework.

For more explanation, **SQ** is a widely recognized construct for evaluating the effectiveness of information systems (IS), typically measured through attributes such as functionality, stability, usability, flexibility, and maintainability (DeLone & McLean, 2016; Shagari et al., 2017; Jo & Bang, 2023). Numerous studies have confirmed its positive influence on IS success and perceived usefulness, particularly when systems are reliable, user-friendly, and accessible (Chaveesuk & Hongsuwan, 2017; Choeh & Jo, 2015; Tam & Oliveira, 2016; Nirwanto & Andarwati, 2019; Akrong et al., 2022; Jo, 2023). In accounting contexts, high system quality facilitates accurate and timely data entry, secure storage, and automated reporting, thereby enhancing the quality of financial information and supporting informed decision-making (Shqair & Altarazi, 2022; Nguyen et al., 2023; Alharasis & Alkhwalidi, 2024; Al-Okaily et al., 2023; Gunarathne et al., 2023). Further evidence from AIS and ERP studies links system quality to improved financial performance and reporting accuracy (Fitriati et al., 2020; Sunarta et al., 2025; Rarantika et al., 2024; Madukara & Mita, 2025). Nonetheless, some research has reported non-significant or inconsistent findings, possibly due to contextual or methodological differences (Van Cauter et al., 2017; Widiastuti et al., 2019; Salam & Farooq, 2020; Bradford et al., 2020). While such mixed results exist, the prevailing literature supports the positive role of system quality.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

**SVQ** in the context of Information Systems (IS), particularly CERP systems, refers to the level of support provided to users, including technical assistance, training, documentation, and responsiveness of the service provider (DeLone & McLean, 2016). It is widely recognized as a critical determinant of system success across various IS environments (Jo, 2022; Sheu & Chang, 2022; Balinado et al., 2021; Zhou et al., 2019). In CERP implementations, high service quality ensures system reliability, responsive issue resolution, and the availability of adequate training and user support resources (Jo & Park, 2023), all of which contribute to the practical use of the system and operational alignment. Empirical evidence supports the positive influence of service quality on ERP success. Studies by Hsu et al. (2015), Dewangga et al. (2021), and Hamdan & Al-Hajri (2021) highlight that strong service support enhances system effectiveness and organizational value. Similarly, Al-Fraihat et al. (2020) and Marei et al. (2023) emphasize the importance of service quality in CERP environments, as it directly affects system acceptance and performance. Moreover, quality service provision has been linked to improved data accuracy, fewer reporting errors, and enhanced compliance with financial reporting standards (Rafika et al., 2015; Rarantika & Firmanto, 2024). From a broader perspective, high service quality contributes to organizational outcomes, including profitability, user satisfaction, and competitive advantage (Shagari et al., 2017; Al-Okaily et al., 2020). User satisfaction, shaped by the system's relevance to job roles and the availability of practical training, has been shown to directly influence organizational performance (Genia et al., 2023). Conversely, insufficient training and inadequate post-implementation support can compromise the quality of financial reporting and system performance (Motsielwa, 2020; Madukara & Mita, 2025). Effective service delivery thus plays a crucial role in enabling users to generate accurate and timely financial reports, as well as leverage the system for informed strategic decision-making (Lovita & Susanty, 2021; Balic et al., 2022).

Alongside **SQ** and **SVQ**, **IQ** is a key construct in the IS success model, referring to the extent to which a system provides accurate, timely, complete, and relevant information (DeLone & McLean, 2016). High IQ supports informed decision-making and enhances user satisfaction, which positively influences system adoption and effectiveness (Al-Fraihat et al., 2020; Jo & Park, 2023; Ku et al., 2023). Studies confirm that IQ significantly impacts users' perceived usefulness

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

and satisfaction, particularly in ERP and CERP systems (Yuwei, 2019; Nirwanto & Andarwati, 2019). ERP systems play a vital role in improving financial reporting by ensuring accurate, real-time data aligned with accounting standards, thereby enhancing report reliability and organizational performance (Sunarta & Astuti, 2023; Fathurohman et al., 2023; Madukara & Mita, 2025). High-quality financial information benefits both internal and external stakeholders, supporting strategic decision-making (Shagari et al., 2017; Akrong et al., 2022). CERP systems, in particular, enhance real-time data processing and integration across departments, improving operational agility and reporting accuracy (Gupta et al., 2020; Øverdal et al., 2022; Jain & Sharma, 2016).

**TMS** refers to the active involvement of senior executives in system implementation, particularly through strategic guidance, resource allocation, and policy support (Jo & Park, 2023). Extensive research has emphasized its critical role in enhancing system success and user satisfaction (Lo et al., 2021; Nirwanto & Andarwati, 2019; Eldalabeeh et al., 2021). In the context of cloud computing, TMS is especially vital for overcoming barriers such as cost and complexity and for ensuring organizational readiness (Daoud et al., 2021; Teh et al., 2024; Entsie et al., 2025). In ERP and particularly CERP systems, TMS has been consistently identified as a key success factor, influencing both implementation outcomes and post-deployment performance (Mahmood et al., 2024; Jayeola et al., 2022a; Odoyo & Ojera, 2020). Several studies, including those by Barbieri et al. (2024) and Pratiwi & Sfenrianto (2024), have confirmed the role of TMS in evaluating CERP performance across both implementation and operational stages. While some research reports mixed findings—such as Ooi et al. (2018), who found no significant direct effect of TMS on performance—other studies show clear links between TMS and financial success (Lo et al., 2016; Sheikh et al., 2017). These results highlight that effective top management engagement is crucial for ensuring alignment with organizational goals, promoting system usage, and improving the quality and reliability of financial reporting. Furthermore, studies by Jayeola et al. (2022a, 2022b) affirm that CERP implementation significantly contributes to financial performance, reinforcing the strategic role of TMS in maximizing the financial reporting benefits of such systems.



**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

Based on the above, the proposed framework collectively highlights how the integration of system quality, service quality, information quality, and top management support contributes to improved financial reporting quality within SMEs that utilize CERP systems. System quality ensures reliable and efficient processing of financial transactions, while information quality guarantees the accuracy, completeness, and timeliness of financial data. Simultaneously, service quality ensures that users receive the necessary support and training to utilize system capabilities effectively. Moreover, top management support provides strategic direction, allocates essential resources, and reinforces organizational commitment to leveraging the system for performance outcomes. Together, these components foster a technological and organizational environment conducive to producing high-quality, standards-compliant financial reports, enhancing both internal decision-making and external accountability.

## **7. Discussion, Limitations, and Future Research**

This study proposed a conceptual framework that integrates elements from the Technology–Organization–Environment (TOE) framework and a modified version of the DeLone and McLean Information Systems Success Model (ISSM) to evaluate the impact of CERP systems on Financial Reporting Quality (FRQ) in SMEs. The framework emphasizes four primary constructs—System Quality (SQ), Information Quality (IQ), Service Quality (SVQ), and Top Management Support (TMS)—as key antecedents of FRQ. By focusing on FRQ as the primary performance outcome, this study responds to calls in the literature for more targeted evaluation models that go beyond general system success metrics. The discussion of each construct and its supporting empirical evidence reveals that technological efficiency (SQ and IQ), external support mechanisms (SVQ), and internal leadership commitment (TMS) play synergistic roles in enhancing the quality of financial reporting. These elements collectively help ensure the timely, complete, and reliable collection of financial data, which is crucial for informed decision-making, regulatory compliance, and performance monitoring. Furthermore, this framework is particularly relevant for SMEs in developing economies, where financial transparency and operational agility are often challenged by limited resources, technical capacity, and evolving regulatory environments. By identifying key enablers of FRQ through the lens of CERP systems, this research provides a theoretically grounded model that bridges gaps between information systems, accounting, and strategic management literature.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

Despite its conceptual value, the study has several limitations. First, the framework is developed based solely on a theoretical and literature-based review; it lacks empirical validation. As such, the proposed relationships, while well-supported in prior research, remain hypothetical until tested in real-world contexts. Second, the model focuses specifically on SMEs and CERP systems, which may limit its generalizability to large enterprises or on-premise ERP implementations. Additionally, some contextual variables—such as user competence, IT infrastructure maturity, or industry-specific regulations—were not explicitly included in this framework but may influence outcomes.

Given the conceptual nature of this study, future research should focus on empirically validating the proposed framework using quantitative or mixed-method approaches across diverse SME sectors, particularly in developing economies. Testing the relationships among System Quality, Information Quality, Service Quality, and Top Management Support about Financial Reporting Quality (FRQ) will provide robust evidence for the model's applicability and generalizability.

From an accounting perspective, future research could investigate how CERP systems impact specific aspects of financial reporting practices, including compliance with International Financial Reporting Standards (IFRS), audit readiness, and the effectiveness of internal controls. Researchers may also examine the role of CERP in enhancing the timeliness, accuracy, and transparency of financial statements, which are crucial for maintaining investor confidence and ensuring effective regulatory oversight.

Moreover, studies could investigate how accounting professionals interact with CERP systems and how their digital competencies moderate the relationship between system characteristics and the quality of reporting. Incorporating variables such as the accounting staff's ERP literacy, system trust, or professional judgment would provide deeper insight into the behavioral and human factors influencing reporting outcomes.

Comparative studies between traditional ERP systems and CERP systems in accounting functions can also yield valuable insights into the efficiency, cost-effectiveness, and data security differences in financial reporting environments. Additionally, exploring the impact of CERP on non-financial reporting (e.g., ESG or sustainability reports) may extend the model's relevance in broader corporate reporting contexts.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

## **8. Theoretical and Practical Contribution**

This study offers significant theoretical and practical contributions to the fields of information systems and accounting, particularly in the context of small and medium-sized enterprises (SMEs) adopting CERP systems. Theoretically, the proposed framework extends existing knowledge by integrating two well-established models—the DeLone and McLean Information Systems Success Model (ISSM) and the Technology–Organization–Environment (TOE) framework. Through this integration, the study presents a comprehensive model that not only evaluates technical and organizational aspects of system success but also incorporates financial reporting quality (FRQ) as a critical performance outcome. By doing so, the study bridges a notable gap between the information systems and accounting literature, highlighting how system-related factors influence the accuracy, timeliness, and reliability of financial reports.

Moreover, the framework reflects a theoretical refinement of the ISSM by excluding system use and user satisfaction—two constructs that have been criticized for their limited relevance in mandatory-use environments such as CERP in SMEs. Instead, the focus on system quality, information quality, service quality, and top management support provides a more contextually appropriate and theoretically grounded approach to understanding how ERP systems can drive financial value in small business settings. The inclusion of top management support, rooted in leadership theory, further strengthens the model by acknowledging the critical role of executive involvement in post-implementation success.

On the practical side, this study offers valuable guidance for SME owners, ERP vendors, consultants, and policymakers. The proposed framework highlights the specific system and organizational factors that must be in place to achieve high-quality financial reporting through the adoption of CERP. By identifying the key drivers of financial reporting effectiveness—such as reliable system functionality, high-quality information outputs, responsive vendor support, and strategic leadership—this study equips decision-makers with a clear roadmap for evaluating and enhancing ERP performance.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

For accounting professionals, the findings underscore the importance of selecting and managing ERP systems that not only meet technical requirements but also support financial reporting objectives. In this sense, the study contributes to improving regulatory compliance, audit preparedness, and internal financial decision-making in SMEs. Additionally, the model can support ERP vendors and policymakers in designing training programs and support mechanisms tailored to the financial reporting needs of smaller firms, especially in developing economies where such support is often lacking.

Together, these theoretical and practical contributions position this research as a foundational step toward developing a more finance-oriented understanding of ERP success in SME environments, while also offering applicable insights that can guide implementation and post-adoption strategies.

## **9. Conclusion**

This study proposed a conceptual framework for evaluating the impact of CERP systems on Financial Reporting Quality in SMEs. By integrating constructs from the DeLone and McLean Information Systems Success Model (ISSM) and the Technology–Organization–Environment (TOE) framework, the model highlights the critical roles of System Quality (SQ), Information Quality (IQ), Service Quality (SVQ), and Top Management Support (TMS) in shaping the effectiveness of CERP systems, with FRQ positioned as the key performance outcome.

The theoretical foundation and synthesis of prior empirical research indicate that high-quality systems, accurate and timely information, responsive service support, and committed leadership are essential for enhancing the reliability, relevance, and timeliness of financial reports. These factors collectively enhance system implementation success and ensure that CERP investments lead to improved financial transparency, compliance, and strategic decision-making, particularly within resource-constrained SME environments.

This research contributes to the literature by addressing a notable gap: the lack of a validated model that explicitly connects CERP system characteristics to financial reporting outcomes, especially in the context of developing economies. The framework not only advances understanding in the fields of information systems and accounting but also provides a foundation for future empirical studies aiming to test and validate these relationships in practice.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

## **References**

- Abd Elmonem, M. A., Nasr, E. S., & Geith, M. H. (2016). Benefits and challenges of cloud ERP systems–A systematic literature review. *Future Computing and Informatics Journal*, 1(1-2), 1-9.
- Abdullah, S. N., Aziz, A. A., & Saifulazri, B. Q. (2023). The impact of information technology on accounting systems towards SME performance in Malaysia. *Journal of Social Economics Research*, 10(2), 69-80.
- Abouelghit, M. G., & Gan, S. (2022). Effects of Mandating Audits for Egyptian SMEs on Their Financing Opportunities-Analyzing the Egyptian SMEs Audit Market. *Open Journal of Accounting*, 11(2), 149-179.
- Abrokwah, E., Quaye, I., Omondi, C., Osei, J. Y., & Sarbah, A. (2015). The use of information technology (IT) among small and medium enterprises (SMEs) in financial reporting: Evidence from Ghana. *British Journal of Economics, Management & Trade*, 8(4), 258-269.
- Ahmed, I. (2020). Technology organization environment framework in cloud computing. *TELKOMNIKA (Telecommunication Computing Electronics and Control)*, 18(2), 716-725.
- Ahmed, W., Najmi, A., & Majeed, S. (2024). Understanding the impact of technological flexibility at different decision levels to reap enterprise resource planning benefits. *Journal of Systems and Information Technology*, 26(1), 115-139.
- Ahn, B., & Ahn, H. (2020). Factors affecting intention to adopt cloud-based ERP from a comprehensive approach. *Sustainability*, 12(16), 6426.
- Akai, N. D., Ibok, N., & Akininyi, P. E. (2023). Cloud Accounting and the Quality of Financial Reports of Selected Banks in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 11(9), 18-42.
- Akbar, D. M., & Harahap, K. (2021). Pengaruh Implementasi Sistem Enterprise Resource Planning (Erp) Terhadap Kualitas Informasi Akuntansi. *JAKPI – Jurnal Akuntansi, Keuangan & Perpajakan Indonesia*, 9(1), 15. <https://doi.org/10.24114/jakpi.v9i1.25731>

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- Akrong, G. B., Yunfei, S., & Owusu, E. (2022). Development and validation of an improved DeLone-McLean IS success model-application to the evaluation of a tax administration ERP. *International Journal of Accounting Information Systems*, 47, 100579.
- Al Zayani, M., Baher, M., Al Beeshi, S., Al Ajmi, H., & Alaghbari, M. (2023). The Reality of SMEs and Sustainable Development from the Perspective of Innovative Economic Vision of the Kingdom of Bahrain 2030. *International Journal of Technology, Innovation and Management (IJTIM)*, 3(1), 28-33.
- Alam, K., Ali, M. A., Erdiaw-Kwasie, M. O., Murray, P. A., & Wiesner, R. (2022). Digital transformation among SMEs: Does gender matter?. *Sustainability*, 14(1), 535.
- Alaskari, O., Pinedo-Cuenca, R., & Ahmad, M. M. (2021). Framework for implementation of Enterprise Resource Planning (ERP) systems in small and medium enterprises (SMEs): A case study. *Procedia Manufacturing*, 55, 424-430.
- Alawbathani, F. S. (2024). The Use of Cloud Computing Technology in University From Students' Perspective: A Case Study. Ohio University.
- AlBar, A. M., & Hoque, M. R. (2019). Factors affecting cloud ERP adoption in Saudi Arabia: An empirical study. *Information Development*, 35(1), 150-164.
- Al-Fraihat, D., Joy, M., Masa'deh, R. E., & Sinclair, J. (2020). Evaluating E-learning systems success: An empirical study. *Computers in human behavior*, 102, 67-86.
- AlGhazzawi, N. A. (2020). Adoption of cloud enterprise resource planning systems (CERPs) in the Kingdom of Saudi Arabia (Doctoral dissertation, RMIT University).
- Algrari, A. Y., & Ahmed, M. R. M. (2019). The impact of Accounting Information Systems' Quality on Accounting Information Quality. *Journal of Information Technology Management*, 11(3), 62-80.
- Alharasis, E. E., & Alkhwaldi, A. F. (2024, June). The implementation of advanced AIS and the accounting data quality: the case of Jordanian

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

SMEs. In *International conference on human-computer interaction* (pp. 149-173).

Allam, M., Youssef, A., Ragheb, M., & Abdou, R. (2023). The Impact of Working Capital Management on Profitability of Egyptian SMEs in Egypt. *Central European Management Journal*, 31(1), 639-653.

AlMuhayfith, S., & Shaiti, H. (2020). The Impact of Enterprise Resource Planning on Business Performance: With the Discussion on Its Relationship with Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity* (Vol. 6, Issue 3). <https://doi.org/10.3390/joitmc6030087>

Al-Mutawa, B., & Saeed Al Mubarak, M. M. (2024). Impact of cloud computing as a digital technology on SMEs sustainability. *Competitiveness Review: An International Business Journal*, 34(1), 72-91.

Al-Nsour, E., Weshah, S., & Dahiyat, A. (2021). Cloud accounting information systems: Threats and advantages. *Accounting*, 7(4), 875-882.

Al-Okaily, A., Al-Okaily, M., & Teoh, A. P. (2023). Evaluating ERP systems success: evidence from Jordanian firms in the age of the digital business. *VINE Journal of Information and Knowledge Management Systems*, 53(6), 1025-1040.

Al-Okaily, M. (2021). Assessing the effectiveness of accounting information systems in the era of COVID-19 pandemic. *VINE Journal of Information and Knowledge Management Systems*.

Alsafi, T., & Fan, I. S. (2020). Investigation of Cloud Computing Barriers: A Case Study in Saudi Arabian SMEs. *Journal of Information Systems Engineering and Management*, 5(4), em0129.

Alsharari, N. M., Al-Shboul, M., & Alteneiji, S. (2020). Implementation of cloud ERP in the SME: evidence from UAE. *Journal of Small Business and Enterprise Development*, 27(2), 299-327.

Alshare, K. A., Alomari, M. K., Lane, P. L., & Freeze, R. D. (2019). Development and determinants of end-user intention: usage of expert systems. *Journal of Systems and Information Technology*.

Alzoubi, M. M., & Snider, D. H. (2020). Comparison of factors affecting enterprise resource planning system success in the Middle East.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

*International Journal of Enterprise Information Systems (IJEIS)*,  
16(4), 17-38.

Amara, F. M. A. (2023). The impact of implementing cloud-based Enterprise Resource Planning systems on the quality of financial reports in small and medium-sized enterprises: An analytical study. *Scientific Journal of Financial and Administrative Studies and Research*, 15(Special Issue).

Ambarwati, D., Sukesti, F., & Nurcahyono, N. (2022). The Influence of Capital Structure, Information Technology, and Business Characteristics on SMEs' Performance During the COVID-19 Outbreak.

Aroba, O. J., & Mnguni, S. B. (2023, January). An Enterprise Resource Planning (ERP) SAP Implementation Case Study in South Africa Small Medium Enterprise Sectors. In *International Conference on Digital Technologies and Applications* (pp. 348-354).

Asaduzzaman, Md. (2016). Accounting and Financial Reporting Practices of SMEs: Bangladesh Perspective, *Malaysian Journal of Business and Economics* Vol. 3, No. 1.

Astuty, W., Pratama, I., Basir, I., & Harahap, J. P. R. (2022). Does enterprise resource planning lead to the quality of the management accounting information system?. *Polish Journal of Management Studies*, 25(2), 93-107.

Ayoub, A., Potdar, V., Rudra, A., & Luong, H. (2020). The Impact of Organizational Culture on the Internal Controls Components of Accounting Information Systems in the City of Beirut, Lebanon. In *Big Data and Security: First International Conference, ICBDS 2019, Nanjing, China, December 20–22, 2019, Revised Selected Papers I* (pp. 157-177). Springer Singapore.

Bachmid, F. S. (2016). The effect of accounting information system quality on accounting information quality. *Research Journal of Finance and Accounting*, 6.

Balić, A., Turulja, L., Kuloglija, E., & Pejić-Bach, M. (2022). ERP quality and the organizational performance: technical characteristics vs. information and service. *Information*, 13(10), 474.



**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- Balinado, J. R., Prasetyo, Y. T., Young, M. N., Persada, S. F., Miraja, B. A., & Redi, A. A. N. P. (2021). The effect of service quality on customer satisfaction in an automotive after-sales service. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), 116.
- Bania, K., & Geradin, D. (2024). The regulation of cloud computing: why the European Union failed to get it right. *Information & Communications Technology Law*, 33(1).
- Barbieri, L. M., & Sott, M. K. (2025). Critical success factors in the implementation of cloud ERP in SMEs: A case study in Brazilian organizations. *REGEPE Entrepreneurship and Small Business Journal*, 14, e2463.
- Bernroider, E. W. (2008). IT governance for enterprise resource planning supported by the DeLone–McLean model of information systems success. *Information & Management*, 45(5), 257-269.
- Bitkowska, A., Dziembek, D., & Gzik, T. (2024). Enterprise Resource Planning based on Cloud Computing (Cloud ERP). *Journal of Software & Systems Development*, 2024.
- Carlsson-Wall, M., Goretzki, L., Hofstedt, J., Kraus, K., & Nilsson, C. J. (2022). Exploring the implications of cloud-based enterprise resource planning systems for public sector management accountants. *Financial Accountability & Management*.
- Çelik, K., & Ayaz, A. (2022). Validation of the Delone and McLean information systems success model: a study on student information system. *Education and Information Technologies*, 27(4), 4709-4727.
- Chang, Y. W. (2020). What drives organizations to switch to cloud ERP systems? The impacts of enablers and inhibitors. *Journal of Enterprise Information Management*, 33(3), 600-626.
- Chaveesuk, S., & Hongsuwan, S. (2017). A structural equation model of ERP implementation success in Thailand. *Review of Integrative Business and Economics Research*, 6(3), 194.
- Cheng, Y. M. (2019). A hybrid model for exploring the antecedents of cloud ERP continuance: Roles of quality determinants and task-technology fit. *International Journal of Web Information Systems*, 15(2), 215-235.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

- CHF MCSE, CHF Management and Consulting Services Egypt (2020). Covid19 impact on performance of micro and small businesses in Egypt. Retrieved from <https://www.globalcommunities.org/covid-19-egypt>
- Choeh, J. Y., & Jo, H. (2015). Impact of IS success factors, redundancy and perceived storage on removing behavior in the context of smartphone application. *e-Bus. Stud.*, 16, 67-82.
- Chu, H. H. T., & Nguyen, T. V. (2022). Factors influencing successful implementation of cloud ERP solutions at small and medium enterprises in Vietnam. *The Journal of Asian Finance, Economics and Business*, 9(5), 239-250.
- Coyle, D., & Nguyen, D. (2018). Cloud computing and national accounting. *Economic Statistics Centre of Excellence Discussion Paper*.
- Daoud, L., Marei, A., Al-Jabaly, S., & Aldaas, A. (2021). Moderating the role of top management commitment in usage of computer-assisted auditing techniques. *Accounting*, 7(2), 457-468
- Dehning, B., Sinha, C., & Sinha, P. (2017). Change in earnings quality surrounding ERP implementation. *Corporate Ownership & Control*, 15(1), 8-17.
- DeLone, W. H., & McLean, E. R. (2016). Information systems success measurement. *Foundations and Trends® in Information Systems*, 2(1), 1-116.
- Demi, S., & Haddara, M. (2018). Do cloud ERP systems retire? An ERP lifecycle perspective. *Procedia computer science*, 138, 587-594.
- Dewangga, R. P., Bararoh, T., & Yuliarini, S. (2021). Effectiveness of Accounting Information Systems in the Audit Process during the Pandemic Using the Delone and Mclean Models. Wijaya Kusuma Surabaya University.
- Dube, T., Van Eck, R., & Zuva, T. (2020). Review of technology adoption models and theories to measure readiness and acceptable use of technology in a business organization. *Journal of Information Technology*, 2(04), 207-212.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

Egypt Vision 2030, Available at:  
[https://arabdevelopmentportal.com/sites/default/files/publication/sds\\_egypt\\_vision\\_2030.pdf](https://arabdevelopmentportal.com/sites/default/files/publication/sds_egypt_vision_2030.pdf), accessed 15.10.2023

Eldalabeeh, A. R., Al-Shbail, M. O., Almuie, M. Z., Bany Baker, M., & E'Leimat, D. (2021). *Cloud-based accounting adoption in Jordanian financial sector. The Journal of Asian Finance, Economics and Business*, 8(2), 833–849

ElKelish, W.W. (2021). The International Financial Reporting Standards 9 financial instruments, information quality and stock returns in the modern technology era. *Journal of Applied Accounting Research*, 22(3), 465-483.

El-Mousawi, H., & Jaber, A. (2023). Impact of Utilizing Cloud Accounting on Enhancing the Qualitative Characteristics of Financial Reports (An Empirical Study). *Journal of Business and Management*, vol. 25, iss. 1, PP. 52-65

ElSayed, M. S. E. M. (2020). Trends towards IOT in Egypt: Cloud Computing System Implementation in Egypt—Challenges and Benefits. *Tehnički glasnik*, 14(3), 381-387.

Entsie, E., Hurson, I. B., & Vaz, A. (2025). Assessing the mediating role of top management support in the adoption of cloud computing in the public sector: The case of Ghana. *Multidisciplinary Science Journal*, 7(8), 2025345-2025345.

Ezeagba, C. (2017). Financial reporting in small and medium enterprises (SMEs) in Nigeria. Challenges and options. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7(1), 1-10.

Faccia, H. F., Coman, B. J., & Damerji, F. S. (2023). Information technology and financial reporting practices in SMEs in California, USA. *African Journal of Emerging Issues*, 5(2), 13–20.

Fitriati, A., & Mulyani, S. (2015). The influence of leadership style on accounting information system success and its impact on accounting information quality. *Research Journal of Finance and Accounting*, 6(11), 167-173.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- Fitriati, A., Tubastuvi, N., & Anggoro, S. (2020). The role of AIS success on accounting information quality. *The International Journal of Business Management and Technology*, 4(2), 43-51.
- Flack, C., & Dembla, P. (2021). A Model for Evaluating Cloud Computing Benefit for Small Business: Extending DeLone and McLean into the Cloud Era. *SCIREA Journal of Information Science and Systems Science*, 5(4), 40–67.
- Fuadah, H., & Setiyawati, H. (2020). The Effect of the implementation of transparency and accounting information systems on the quality of financial reports. *IJO-International Journal of Business Management* (ISSN 2811-2504), 3(11), 01-12.
- Gable, G. G., Sedera, D., & Chan, T. (2008). Re-conceptualizing information system success: The IS-impact measurement model. *Journal of the association for information systems*, 9(7), 18.
- Gade, S., & Rao, K. M. (2022, June). Adoption of Cloud Computing to Accounting: Benefits and Challenges. *7th International Conference on Communication and Electronics Systems (ICCES)* (pp. 1652-1656). IEEE.
- Ganapathy, N. (2018). Factors That Deter Small and Medium Enterprises from Adopting ERP. *International Journal of Research in Economics and Social Sciences (IJRESS)*, 8(2).
- Gangwar, H., Date, H., & Ramaswamy, R. (2015). Understanding determinants of cloud computing adoption using an integrated TAM-TOE model. *Journal of enterprise information management*.
- Genia, V., Eitiveni, I., Tirtayasa, M. R., Wibowo, W. S., Nugraha, T. F., & Nabarian, T. (2023). Unraveling the Key Factors of Successful ERP Post-Implementation in the Indonesian Construction Context. *Interdisciplinary Journal of Information, Knowledge, and Management*, 18, 487-519
- Ghaffar, A.M., Mokhtar, M.Z., Ismail, W.N.S.W. and Othman, MR.(2019) , Determinant of E-Accounting (EA) Adoption Among Malaysian Maritime SMEs, *International Journal of Engineering & Technology*, Vol.8, No.1.8, P. 103.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- Ghobakhloo, M., & Tang, S. H. (2015). Information system success among manufacturing SMEs: case of developing countries. *Information Technology for Development*, 21(4), 573-600.
- Golightly, L., Chang, V., Xu, Q. A., Gao, X., & Liu, B. S. (2022). Adoption of cloud computing as innovation in the organization. *International Journal of Engineering Business Management*, 14, 18479790221093992.
- Gorla, N., Somers, T. M., & Wong, B. (2010). Organizational impact of system quality, information quality, and service quality. *The journal of strategic information systems*, 19(3), 207-228.
- Gunarathne, N., Lee, K. H., & Hitigala Kaluarachchilage, P. K. (2023). Tackling the integration challenge between environmental strategy and environmental management accounting. *Accounting, Auditing & Accountability Journal*, 36(1), 63-95.
- Gupta, A.K., & Gaur, P. (2018). Impacts of Cloud Computing on Accounting: Aids, Challenges, and Future Growth. *EPRA International Journal of Economic and Business Review*, 6(3), 49–54
- Gupta, S., Misra, S. C., Singh, A., Kumar, V., & Kumar, U. (2017). Identification of challenges and their ranking in the implementation of cloud ERP: A comparative study for SMEs and large organizations. *International Journal of Quality & Reliability Management*, 34(7), 1056-1072.
- Haddara, M., Gøthesen, S., & Langseth, M. (2022). Challenges of cloud-ERP adoptions in SMEs. *Procedia computer science*, 196, 973-981.
- Hamdan, M., & Al-Hajri, N. (2021). The effect of information systems success factors on user satisfaction in accounting information systems. *Management Science Letters*, 11(7), 2045-2052.
- Hammad, A. G., & Saad, M. (2023). The Impact of Egyptian Banking Finance on Entrepreneurs' Financial Strategies for SME's Lifecycle. *Journal of Business*, 11(2), 129-160.
- Hanifah, S., Sarpingah, S., & Putra, Y. M. (2020). The Effect of Level of Education, Accounting Knowledge, and Utilization Of Information Technology Toward Quality The Quality of MSME's Financial Reports (3).

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- Hansen, K., Haddara, M., & Langseth, M. (2023). Exploring Multi-Criteria Decision-Making Methods in ERP Selection. *Procedia Computer Science*, 219, 879-888.
- Hasbolah, F., Rosli, M. H., Hamzah, H., Omar, S. A., & Bhuiyan, A. B. (2021). The digital accounting entrepreneurship competency for sustainable performance of the rural micro, small and medium enterprises (MSMEs): An empirical review. *International Journal of Small and Medium Enterprises*, 4(1), 12–25.
- Hassanien, H. E. D., & Elragal, A. (2021, March). Deep Learning for Enterprise Systems Implementation Lifecycle Challenges: Research Directions. In *Informatics* (Vol. 8, No. 1, p. 11). Multidisciplinary Digital Publishing Institute.
- Hong, P. W., Dorasamy, M., Hong, L. J., & Malarvizhi, C. A. N. (2024). Exploring cloud enterprise resource planning and open innovation for small and medium enterprises: Insights from practitioners. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(4), 100418.
- Hossain, M. A., & Quaddus, M. (2011). The adoption and continued usage intention of RFID: an integrated framework. *Information Technology & People*.
- Hsu, P. F., Yen, H. R., & Chung, J. C. (2015). Assessing ERP post-implementation success at the individual level: Revisiting the role of service quality. *Information & Management*, 52(8), 925-942.
- Huang, Q., Rahim, M., Foster, S., & Anwar, M. (2021, January). Critical success factors affecting implementation of Cloud ERP systems: A systematic literature review with future research possibilities. In *Proceedings of the 54th Hawaii International Conference on System Sciences* (pp. 4683–4692). IEEE.
- Hussain, M. K., Siddique, A., Kazmi, H., & Obaidullah, N. (2024). Factors Affecting User Acceptance of ERP Systems in SMEs. *Bulletin of Multidisciplinary Studies*, 1(1).
- Huy, P.Q. and Phuc, V.K. (2020), “The impact of public sector scorecard adoption on the effectiveness of accounting information systems

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

towards the sustainable performance in public sector”, *Cogent Business and Management*, Vol. 7 No. 1, p. 1717718.

Ifinedo, P., Rapp, B., Ifinedo, A., & Sundberg, K. (2010). Relationships among ERP post-implementation success constructs: An analysis at the organizational level. *Computers in human behavior*, 26(5), 1136-1148.

Indra, L. D. M. A., & Noorlailie, S. (2018). Impact of enterprise Resource planning systems on the accounting information relevance and firm performance. *Russian Journal of Agricultural and Socio-Economic Sciences*, 80(8), 81-87.

Jain, D., & Sharma, Y. (2016). Cloud computing with ERP-A push business towards higher efficiency. *Annual Research Journal of SCMS Pune*, 4.

Jawad, Z. N., & Balázs, V. (2024). Machine learning-driven optimization of enterprise resource planning (ERP) systems: a comprehensive review. *Beni-Suef University Journal of Basic and Applied Sciences*, 13(1), 4.

Jayeola, O., Sidek, S., Abd Rahman, A., Mahomed, A. S. B., & Hu, J. (2022a). Cloud Computing Adoption in Small and Medium Enterprises (SMEs): A Systematic Literature Review and Directions for Future Research. *International Journal of Business and Society*, 23(1), 226-243.

Jayeola, O., Sidek, S., Abd Rahman, A., Mahomed, A. S. B., & Jimin, H. (2022b). Is top management support relevant in the implementation and post-implementation phases of cloud ERP in SMEs? Evidence from Malaysia. *SCMS Journal of Indian Management*, 19(4), 50-63.

Jayeola, O., Sidek, S., Rahman, A. A., Bali Mahomed, A. S., & Jimin, H. (2020). Contextual factors and strategic consequences of cloud enterprise resource planning (ERP) adoption in Malaysian manufacturing SMEs: a conceptual framework.

Jo, H. (2022). Key factors influencing loyalty and satisfaction toward ERP: mediating role of flow. *Journal of the Knowledge Economy*, 1-18.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- Jo, H., & Bang, Y. (2023). Understanding continuance intention of enterprise resource planning (ERP): TOE, TAM, and IS success model. *Heliyon*, 9(10).
- Jo, H., & Park, D. H. (2023). A study of user switching intention for ERP systems based on push-pull-mooring model: Focusing on the important role of information quality for users. *Plos one*, 18(11), e0289483.
- Julianto, I. P., Wiguna, I. G. N. H., & Yasa, I. N. P. (2022). Analysis of the Digitalization of Accounting Information Systems in Supporting the Sustainability of MSMEs During the Pandemic (Study on MSMEs in Buleleng Regency). *JIMAT (Jurnal Ilmiah Mahasiswa Akuntansi) Undiksha*, 13(04), 1277-1284.
- Justice S., and Tetteh, Z. (2017). A study of Financial Accounting Practices of Small and Medium Scale Enterprises (SMEs) in Ho Municipality, Ghana, *International Journal of Academic Research in Business and Social Sciences*, Vol. 7, No. 7, ISSN: 2222-6990.
- Juturi, V. P. K. (2023). Success factors of adopting cloud enterprise resource planning. *Universal Journal of Computer Sciences and Communications*, 2(1).
- Kahsay, G., & Zeleke, G. (2019). Factors affecting use of accounting records on small & micro enterprises (the case of Debre Birhan City, Ethiopia). *Journal of Investment and Management*, 8(1), 1-7.
- Kalavani, A., Kazerani, M., & Shekofteh, M. (2018). Acceptance of evidence-based medicine (EBM) databases by Iranian medical residents using unified theory of acceptance and use of technology (UTAUT). *Health Policy and Technology*, 7(3), 287-292.
- Kamdjoug, J. R. K., Bawack, R. E., & Tayou, A. E. T. (2020). An ERP success model based on agency theory and IS success model. *Business Process Management Journal*, 26(6), 1577– 1597. <https://doi.org/10.1108/BPMJ-04-2018-0113>
- Kamel, S., & Abouseif, M. (2015). A study of the role and impact of cloud computing on small and medium size enterprises (SMEs) in Egypt. Microsoft Corporation.
- Katuu S (2020) Enterprise resource planning: past, present, and future. *New Rev Inform Netw* 25(1):37–46



**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

- Khalil, A., Abdelli, M. E. A., & Mogaji, E. (2022). Do digital technologies influence the relationship between the COVID-19 crisis and SMEs' resilience in developing countries?. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(2), 100.
- Khomonenko, A., & Gindin, S. (2016, April). Performance evaluation of cloud computing accounting for expenses on information security. In 2016 18th Conference of Open Innovations Association and Seminar on Information Security and Protection of Information Technology (FRUCT-ISPIT) (pp. 100-105). IEEE.
- Krishnan, M., & Pavithran, K. B. (2018). Accounting practices of Small and Medium Enterprises in Kerala. *International Journal of Basic and Applied Research*, 8(12), 609 – 617.
- Kuhn Jr, R. W. (2024). Information Technology Critical Success Factors' Influence on Cloud Enterprise Resource Planning Project Success, (Doctoral dissertation), Capella University).
- Kuntum, C. (2019). Effect of implementation of enterprise resource planning system on quality of accounting information. *Russian Journal of Agricultural and Socio-Economic Sciences*, 87(3), 15-20.
- Kusumawardhani, F., Ratmono, D., Wibowo, S., Darsono, D., Widyatmoko, S., & Rokhman, N. (2024). The impact of digitalization in accounting systems on information quality, cost reduction and decision making: Evidence from SMEs. *International Journal of Data and Network Science*, 8(2), 1111-1116.
- Lo, M. F., Tian, F., & Ng, P. M. L. (2021). Top management support and knowledge sharing: the strategic role of affiliation and trust in academic environment. *Journal of Knowledge Management*, 25(9), 2161-2177.
- Lohapan, N. Digital accounting implementation and audit performance: An empirical research of tax auditors in Thailand. *J. Asian Financ. Econ. Bus.* 2021, 8, 121–131.
- Lovita, E., & Susanty, F. (2021). The role of understanding e-commerce and accounting information systems for entrepreneurship. *Journal of Accounting and Management*, 18(2), 47–54.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

- Lutfi, A., Alkelani, S. N., Alqudah, H., Alshira'h, A. F., Alshirah, M. H., Almaiah, M. A., & Abdelmaksoud, O. (2022). The role of E-accounting adoption on business performance: The moderating role of COVID-19. *Journal of Risk and Financial Management*, 15(12), 617.
- Madukara, S., & Mita, A. (2025). Evaluation of the Effectiveness of the Implementation of the Enterprise Resource Planning (ERP) System on the Financial Reporting Process of PT Telecommunications Company. *E-Jurnal Akuntansi*, 35(2).
- Madurapperuma, M., Thilakerathne, P., and Manawadu, N. (2016). Accounting Record Keeping Practices in Small and Medium Sized Enterprise's (SME's) in Sri Lanka, *Journal of Finance and Accounting* 4(4): 188-193
- Mahasib, A. (2024). Cloud-based ERP Successful Implementation: A Critical Soft Factors Analysis for Egyptian Industrial Organizations. *Journal of Financial and Commercial Studies and Research*, 75-110.
- Mahmood, A., & Miller, L. (2017). ERP system implementation in large enterprises – a systematic literature review. *Journal of Enterprise Information Management*, 30(4), 666-692. doi:10.1108/JEIM-07-2014-0071.
- Makhlouf, M., & Allal-Chérif, O. (2019). Strategic values of cloud computing transformation: a multi-case study of 173 adopters. *Journal of Global Information Management (JGIM)*, 27(1), 128-143.
- Markus, M. L., & Tanis, C. (2000). The enterprise systems experience-from adoption to success. Framing the domains of IT research: Glimpsing the future through the past, 173(2000), 207-173.
- Matar N, AlMalahmeh T, Al-Adaileh M, Al Jaghoub S (2020). Factors affecting behavioral intentions towards cloud computing in the workplace. *Int J Emer Technol Learn* 15(16):31–48.
- Mazumdar, A. (2018). Adoption of Cloud Computing in the SMEs: An exploration of the issues and challenges for adoption of Cloud Computing by SMEs in Bangladesh in the context of “Digital Bangladesh”. University of Wales (United Kingdom).

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

- Mehta, N., Chuhan, S., & Kaur, I. (2022). Extending the story of IS success: a meta-analytic investigation of contingency factors at individual and organisational levels. *European Journal of Information Systems*, 31(5), 617-640.
- Meiryani, Y. L., Heykal, M., & Wahyuningtias, D. (2020). Usefulness of accounting information systems for businesses. *Systematic Reviews in Pharmacy*, 11(12), 2054-2058.
- Mgbatogu, S. T. (2021). An Investigation of Cloud Computing Adoption by Nigerian Small and Medium Enterprises (Doctoral dissertation), California Southern University.
- Ministry of Communication and Information Technology (MCIT). (2019a). MCIT Year Book, 2019 Ministry of industry Published strategy (2016-2020) 61-87, Available at URL: [www.msme.eg](http://www.msme.eg)
- Mkhonto, M., & Zuva, T. (2023, April). A Critical Review of Success Models for Measuring Information System. In Computer Science On-line Conference (pp. 378-388). Cham: Springer International Publishing.
- Moh'd Anwer, A. S. (2018). Towards better understanding of determinants logistical factors in SMEs for cloud ERP adoption in developing economies. *Business Process Management Journal*.
- Mohamed, A. M. (2018). The Role of Cloud Enterprise Resource Planning (Cloud ERP) systems in Improving Accounting Information Quality on Small and Medium-sized Enterprises "Field Study".
- Mohamed, M. H. H. (2023). Review of Research on Benefits and Challenges Associated with Cloud ERP in SMEs.
- Motsielwa, U. (2020). Investigating the challenges during the post-implementation stage of an ERP system at an FMCG company (Doctoral dissertation, North-West University (South Africa)).
- Mu, T., Van Riel, A., & Schouteten, R. (2022). Individual ambidexterity in SMEs: Towards a typology aligning the concept, antecedents and outcomes. *Journal of Small Business Management*, 60(2), 347-378.
- Murdihardjo, L., Nurjanah, Y., & Rendy, R. (2020, May). Implementing INTACS Dynamics Enterprise Resources Planning System for Financial Statements. In 2nd International Seminar on Business,

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

Economics, Social Science and Technology (ISBEST 2019) (pp. 228-233). Atlantis Press.

Mustafa, S. A. (2023). The Effect of Digitalization on Improving the Timeliness of Financial Reporting: Evidence from Egyptian Listed Companies.

Nair, J., Reddy, D. B., & Samuel, A. A. (2019). Socio-technical change perspective for ERP implementation in large scale organizations. In *Advanced methodologies and technologies in business operations and management* (pp. 827-840). IGI Global.

Nguyen, G. T., & Liaw, S. Y. (2022). Understanding the Factors Affecting the Small and Medium Enterprises Adoption of Cloud computing: A Literature Review. *International Journal of Business, Management and Economics*, 3(2), 149-162.

Nguyen, T. H., Nguyen, D. T., Nguyen, T. A., & Nguyen, C. D. (2023). Impacts of contingency factors on the application of strategic management accounting in Vietnamese manufacturing enterprises. *Cogent Business & Management*, 10(2), 2218173.

Nirwanto, N., & Andarwati, M. (2019). End-user satisfaction as an impact of the system quality, information quality, and top management support, upon the perceived usefulness of technology utilization.

Nyathi, K. A., Nyoni, T., Nyoni, M., & Bonga, W. G. (2018). The role of accounting information in the success of small & medium enterprises (SMEs) in Zimbabwe: A case of Harare. *Journal of Business and Management (DRJ-JBM)*, 1(1), 01-15.

Ocar, U., & Aggarwal, N. S. (2019). An adapted Information System Success Model for Software-as-a-Service Solutions: Management Support, User Involvement, and Trust as Antecedents to Information Systems Success.

Odoyo, C. O., & Ojera, P. B. (2020). Impact of top management support on accounting information system: A case of enterprise resource planning (ERP) system. *Universal Journal of Management*, 8(1), 12-19.

Ogunsola, E. A. E. (2021). Effect of Cloud Accounting on the Financial Reporting Quality of SMEs in Nigeria.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- Okour, S. M. (2022). Critical success factors of cloud enterprise resource planning systems and financial performance: Evidence from emerging markets. *Journal of Governance and Regulation*, Volume, 11(1), 361-375
- Oladejo, M. O., & Yinus, S. O. (2020). Electronic Accounting Practices: An Effective Means for Financial Reporting Quality in Nigeria Deposit Money Banks. *International Journal of Managerial Studies and Research*, 8(3), 13-26.
- Olivia, N. (2021). Pengaruh Kualitas Informasi Dan Kualitas Sistem Terhadap Kepuasan Pemakai Enterprise Resource Planning (Erp). Sumatera, Jl Karang, Ulak Utara, Padang Syaputra, Riki, 6–7.
- Omar, M. A., Gomaa, I., Badawy, H., & Moubarak, H. (2022). An examination of the factors affecting the adoption of cloud enterprise resource planning systems in Egyptian companies. *International Journal of Economics and Management Engineering*, 16(2).
- Onyali, C. (2016). The use of cloud computing and accounting packages for corporate business transactions in Nigeria: An explorative study. *IOSR Journal of Business and Management (IOSR-JBM)*, 18(7), 113-117.
- Ooi, K. B., Lee, V. H., Tan, G. W. H., Hew, T. S., & Hew, J. J. (2018). Cloud computing in manufacturing: The next industrial revolution in Malaysia?. *Expert Systems with Applications*, 93, 376-394.
- Osman, M. S. A. (2021). Information Technology Outsourcing Governance as an Approach for Development Accounting Information Systems in Small and Medium Enterprises (SMEs) (An Applied Study on Companies Listed in Nile Stock Exchange).
- Ou, P., Zhao, H., & Zhou, Z. (2018). Does the implementation of ERP improve the quality of accounting information? Evidence from Chinese A-share listed manufacturing firms. *Journal of Applied Business Research*, 34(1).
- Øverdal, M., Haddara, M., & Langseth, M. (2022, October). Exploring Public Cloud-ERP Systems' Impact on Organizational Performance. In *Proceedings of the Future Technologies Conference* (pp. 121-137). Cham: Springer International Publishing.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- Owolabi, S. A., & Izang, J. U. (2020). Cloud accounting and financial reporting qualities of SMEs in Nigeria: An overview. *International Journal of Research Publications*, 60(1), 21–28.
- Oyedokun, E. (2023). Digitalized Accounting System: Revamping Small and Medium Enterprises Financial Reporting System. *The American Journal of Humanities and Social Sciences Research (THE AJHSSR)*, 6(3), 99-113.
- Paredes, A. A. P., & Wheatley, C. M. (2018). Do Enterprise Resource Planning Systems (ERPs) Constrain Real Earnings Management? *Journal of Information Systems*, 32(3), 65–89. <https://doi.org/10.2308/isis-51760>
- Patnaik D. B., Satpathy D., & Debnath N. C. (2019). The effect of ERP system implementation on real earnings management: Evidence from an emerging economy. *International Journal of Civil Engineering and Technology*, 10(3), 588–603.
- Paulsson, V., & Johansson, B. (2023). Cloud ERP systems architectural challenges on cloud adoption in large international organizations: A sociomaterial perspective. *Procedia Computer Science*, 219, 797-806.
- Perveen, S. (2019). The value relevance of accounting information: an empirical analysis of banking sector of Pakistan. *Journal of Marketing and information systems*, 2(1), 10-17.
- Phalaagae, P. (2017). Assessing factors that influence the success of agriculture mobile information systems: a validation with the DeLone and McLean model (Doctoral dissertation, Botswana International University of Science & Technology (Botswana)).
- Phornlaphatrachakorn, K., & NaKalasindhu, K. (2021). Digital Accounting, Financial Reporting Quality and Digital Transformation: Evidence from Thai Listed Firms. *The Journal of Asian Finance, Economics and Business*, 8(8), 409–419.
- Pratiwi, W. R., & Sfenrianto, S. (2024). Critical Success Factor Analysis for Cloud-Based ERP Projects INDONESIA. *Journal of Theoretical and Applied Information Technology*, 102(7).

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- Qiu, Y., & Chen, H. (2023). A systematic review of the knowledge domain of institutional theory in construction project management. *Engineering, construction and architectural management*, 30(6), 2523-2544.
- Quah, K. W. J., Azhar, Z., & Kishan, K. (2022, April). Cloud enterprise resource planning system and its implication on accountants. In *Eurasia Business and Economics Society Conference* (pp. 189-202). Cham: Springer Nature Switzerland.
- Rafika, A. S., Budiarto, M., & Budianto, W. (2015). Aplikasi Monitoring sistem absensi sidik jari sebagai pendukung pembayaran biaya pegawai terpusat dengan SAP. *Creative Communication and Innovative Technology Journal*, 8(3), 134-146.
- Rahardja, U. (2023). Implementation of enterprise resource planning (erp) in indonesia to increase the significant impact of management control systems. *APTISI Transactions on Management*, 7(2), 152-159.
- Ram, J., Corkindale, D., & Ming-Lu, W. (2015). Examining the role of organizational readiness in ERP project delivery. *Journal of Computer Information Systems*, 55(2), 29-39. Retrieved from <http://www.tandfonline.com.proxy1.ncu.edu/>
- Rarantika, L. C., & Firmanto, Y. (2024). The manifestation of DeLone and McLean model in evaluating the implementation of ERP SAP to financial statements. *International Journal of Research on Finance & Business*, 2(1), 85–101.
- Raut, R. D., Gardas, B. B., Jha, M. K., & Priyadarshinee, P. (2017). Examining the critical success factors of cloud computing adoption in the MSMEs by using ISM model. *The Journal of High Technology Management Research*, 28(2), 125-141.
- Ravasan, A. Z., Zare, A., & Bamakan, S. M. H. (2018). ERP Post-Implementation Success Assessment: An Extended Framework. In *Innovative applications of knowledge discovery and information resources management* (pp. 86-116). IGI Global.
- Razzaq, A. R. I. F., Asmai, S. A., Abidin, Z. Z., Talib, M. S., Ali, M. F., & Mohammed, A. A. (2021). Propose a conceptual framework for the

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

- cloud ERP adoption among Malaysian SMEs. *Journal of Engineering Science and Technology*, 16(4), 3387-3406.
- Sabti, Y. M., Alqudhayeh, N. J. A., Al Mousawi, K. M. J., & Taengkliang, B. (2023). The Impact of Accounting Information Systems on Organization Performance in Malaysian Small and Medium Sized Enterprises. *South Asian Journal of Social Sciences and Humanities*, 4(3), 125-133.
- Salam, M., & Farooq, M. S. (2020). Does sociability quality of web-based collaborative learning information system influence students' satisfaction and system usage? *International Journal of Educational Technology in Higher Education*, 17(1), 1-39.
- Saleh, S. (2017). Auditor Assurance and Related Services: Motives and Implications for Small and Medium-Sized Enterprises' Development. *The Business and Management Review*, 8, 131-142.
- Salih, S. H., Abdelsalam, S., Hamdan, M., Abdelmaboud, A., Hamzah, M., Hilal, A. M., & Motwakel, A. (2022). Critical success factors for ERP systems' post-implementations of SMEs in Saudi Arabia: a top management and vendors' perspective. *IEEE Access*, 10, 108004-108020
- Sancar Gozukara, S., Tekinerdogan, B., & Catal, C. (2022). Obstacles of on-premise enterprise resource planning systems and solution directions. *Journal of Computer Information Systems*, 62(1), 141-152.
- Sastararaji, D., Hoonsopon, D., Pitchayadol, P., & Chiwamit, P. (2023). Cloud accounting adoption in Thai SMEs amid the COVID-19 pandemic: An explanatory case study. *Journal of Innovation and Entrepreneurship*, 11(1), 43.
- Saxena, D., & Verma, J. K. (2022). ERP on the cloud: evolution, benefits, and critical success factors. In *Cloud IoT* (pp. 35-44). Chapman and Hall/CRC.
- Seethamraju, R. (2015). Adoption of software as a service (SaaS) enterprise resource planning (ERP) system in small and medium sized enterprises (SMEs). *Information systems frontiers*, 17(3), 475-492.



**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

- Setyaningsih, S. D., Mulyani, S., Akbar, B., & Farida, I. (2021). Implementation and performance of accounting information systems, internal control and organizational culture in the quality of financial information. *Utopía y Praxis Latinoamericana: Revista Internacional de Filosofía Iberoamericana y Teoría Social*, 1, 222–236.
- Shafakheibari, N., & Oladi, B. (2015). The effect of ERP system on relevance of accounting data and quality of financial reporting quality. *Management and Administrative Sciences Review*, 4(3), 504-514.
- Shagari, S. L., Abdullah, A., & Saat, R. M. (2017). Accounting information systems effectiveness: Evidence from the Nigerian banking sector. *Interdisciplinary Journal of Information, Knowledge, and Management*, 12, 309- 335.
- Shaheen, M. Y. (2021). AI in Healthcare: medical and socio-economic benefits and challenges. Available at SSRN 3932277.
- Shaimaa, E. (2016). A Proposed Framework for Measuring the Impact of the Application of Egyptian Auditing Standards on the Audit of SMEs. Ph.D. Thesis, Faculty of Commerce, Suez Canal University
- Sheu, P. L., & Chang, S. C. (2022). Relationship of service quality dimensions, customer satisfaction and loyalty in e-commerce: a case study of the Shopee App. *Applied Economics*, 54(40), 4597-4607.
- Shiraj, M. M. (2015). The impact of using computerized accounting systems (CAS) in financial reporting among SMEs:(Special Reference to the South Eastern Region, Sri Lanka). In 5th International Symposium (Vol. 2, No. 1, pp. 50-53).
- Shqair, M. I., & Altarazi, S. A. (2022). Evaluating the status of SMEs in Jordan with respect to Industry 4.0: a pilot study. *Logistics*, 6(4), 69.
- Small, R. (2016). Factors affecting the adoption of enterprise resource planning (ERP) on cloud among small and medium enterprises (SMES) in Penang, Malaysia. *Journal of Theoretical and Applied Information Technology*, 88(3).
- Sunarta, I. N., & Astuti, P. D. (2023). Accounting information system quality and organizational performance: the mediating role of accounting

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

- information quality. *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, 8(3), 5.
- Surbiryala, J., & Rong, C. (2019, August). Cloud computing: History and overview. In 2019 IEEE Cloud Summit (pp. 1-7). IEEE.
- Taherdoost, H. (2019). Importance of technology acceptance assessment for successful implementation and development of new technologies. *Global Journal of Engineering Sciences*, 1(3).
- Talahmeh, I. A. (2020). A Challenge of Accounting Practices on Small and Medium Enterprises (SMEs): Case Study of Palestine. *Small*, 5, 9.
- Tam, C., & Oliveira, T. (2016). Understanding the impact of m-banking on individual performance: DeLone & McLean and TTF perspective. *Computers in human behavior*, 61, 233-244.
- Tambingon, H. N., Yadiati, W., & Kewo, C. L. (2018). Determinant factors influencing the quality of financial reporting local government in Indonesia. *International Journal of Economics and Financial Issues*, 8(2), 262.
- Tamunotonye, G. P., & Fred-Horsfall, F. V. (2023). Cloud accounting and financial reporting quality of selected Nigerian banks. *Advance Journal of Management, Accounting and Finance*, 8(12), 47-69.
- Teh, R., Subramaniam, A., Ho, J. A., & Basha, N. K. (2024). The mediation role of top management support in the adoption of cloud computing in Malaysian SMEs. *International Journal of Management and Enterprise Development*, 23(1), 73-96.
- Theresia Dwi Hastuti, T., & Ridwan, S. (2021, July). The Investment Opportunity, Information Technology and Financial Performance of SMEs. In *International Conference on Computer & Information Sciences*. Universiti Teknologi PETRONAS (UTP).
- Todorović, M., & Čupić, M. (2023). Effects of ERP on Accounting Information System: Analysis of Accountants' Attitudes. In *Digital Transformation of the Financial Industry: Approaches and Applications* (pp. 1-17). Cham: Springer International Publishing.
- Tongsuksai, S., Mathrani, S., & Weerasinghe, K. (2021, December). Critical success factors and challenges for cloud ERP system

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

- implementations in SMEs: A vendors' perspective. In 2021 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE) (pp. 1-6). IEEE
- Toumeh, A. A. (2022). The Influence of Enterprise Resource Planning System Implementation on Accrual-Based Earnings Management: Empirical Evidence from Jordan. *Global Business Review*.
- Uko, A. J., Esther, I. O., Isaiah, O. O., & Ojo, O. B. (2023). Effect of Cloud Accounting on Financial Information Quality of Selected Firms in Nigeria. *International Journal of Research and Innovation in Social Science*, 7(1), 1175-1193
- Urbach, N., & Müller, B. (2012). The updated DeLone and McLean model of information systems success. In *Information Systems Theory: Explaining and Predicting Our Digital Society*, Vol. 1 (pp. 1-18). New York, NY: Springer New York.
- Usman, U. M. Z., Ahmad, M. N., & Zakaria, N. H. (2019). The determinants of adoption of cloud-based ERP of Nigerian's SMEs manufacturing sector using TOE framework and DOI theory. *International Journal of Enterprise Information Systems (IJEIS)*, 15(3), 27-43.
- Van Cauter, L., Verlet, D., Snoeck, M., & Crompvoets, J. (2017). The explanatory power of the DeLone & McLean model in the public sector: A mixed method test. *Information Polity*, 22(1), 41-55. <https://doi.org/10.3233/ip-170404>.
- Wafa, Z., Rusmawati, F., Utomo, R. B., Budiantara, M., & Pabulo, A. M. A. (2023). Are MSMEs Able to Prepare Financial Statements Following SAK EMKM?. *Jurnal Ekonomi dan Bisnis Digital*, 2(2), 431-442.
- Wahhab, A., Al-Hafaji, B. H. A., & Raji, S. M. (2024). The significance of cloud accounting implementing and its influence on enhancing the quality of financial reporting: Evidence from emerging markets. *Financial and Credit Activity: Problems of Theory and Practice*, 1(54), 146-159.
- Weshah, S., Elessa, M., Shanti, A., Salameh, R., & Al-Tahat, S. (2021). Earning Management Practices within ERP Environment: A Case Study of ERP's Companies Listed in Amman Stock Exchange. *WSEAS Transactions on Business and Economics*, 18, 846-854.

**Dr. Dalia Adel Abas; Dr. Hanan Hassan Gad Allah and Mira Mohamed Ashraf El-Abd**

---

---

- Widiastuti, R., Haryono, B. S., & Said, A. (2019). Influence of system quality, information quality, service quality on user acceptance and satisfaction and its impact on net benefits (study of information system user's lecturer performance load (BKD) in Malang State University). *HOLISTICA - Journal of Business and Public Administration*, 10(3), 111–132. <https://doi.org/10.2478/hjbpa-2019-0032>.
- Wiralestari, W., Rita, F., & Riski, H. (2020). The use of information technology in improving the quality of financial reporting in micro, small and medium enterprises. *The 3rd Green Development International Conference (GDIC 2020)*.
- Yasiukovich, S., & Haddara, M. (2020). Tracing the Clouds. A research taxonomy of cloud-ERP in SMEs. *Scandinavian Journal of Information Systems*, 32(2), 9.
- Yu, P., & Qian, S. (2018). Developing a theoretical model and questionnaire survey instrument to measure the success of electronic health records in residential aged care. *PloS one*, 13(1), e0190749.
- Zebua, S. U. L. I. N. A., & Widuri, R. I. N. D. A. N. G. (2023). Analysis Of Factors Affecting Adoption of Cloud Accounting In Indonesia. *Journal of Theoretical and Applied Information Technology*, 101(1), 89-105.
- Zhou, R., Wang, X., Shi, Y., Zhang, R., Zhang, L., & Guo, H. (2019). Measuring e-service quality and its importance to customer satisfaction and loyalty: an empirical study in a telecom setting. *Electronic Commerce Research*, 19, 477-499.

## استكشاف نظم تخطيط موارد المؤسسات السحابية في الشركات الصغيرة

### والمتوسطة المصرية: إطار نظري لجودة التقارير المالية

#### الملخص

- **الهدف:** تهدف هذه الدراسة النظرية إلى تطوير إطار متكامل لتقييم أداء نظم تخطيط موارد المؤسسات السحابية بعد تنفيذها في الشركات الصغيرة والمتوسطة (SMEs) في مصر. يستند التقييم إلى أربعة أبعاد رئيسية: جودة النظام (SQ)، جودة الخدمة (SVQ)، جودة المعلومات (INFQ)، ودعم الإدارة العليا (TMS). وتستكشف الدراسة بناءً على هذا التقييم التأثير المحتمل للتنفيذ الفعال لنظام CERP على جودة التقارير المالية بشكل عام.
- **المنهجية / أسلوب البحث:** تُقترح في هذه الدراسة نموذجاً مفاهيمياً من خلال دمج نموذج نجاح نظم المعلومات لديلون وماكلين (DeLone and McLean) مع عناصر من إطار التكنولوجيا-المنظمة-البيئة (TOE). وتم تطوير هذا الإطار من خلال تحليل الأدبيات النظرية ذات الصلة في مجالات نظم المعلومات المحاسبية، وتنفيذ أنظمة ERP، والتقارير المالية.
- **النتائج:** يشير الإطار المقترح إلى أن التحسينات في جودة النظام، جودة الخدمة، جودة المعلومات، ودعم الإدارة العليا تسهم بشكل كبير في نجاح تنفيذ نظم CERP. ويرتبط هذا النجاح نظرياً بتحسين جودة التقارير المالية، وخاصة من خلال تعزيز دقة البيانات، توقيتها، اتساقها، وشفافيتها.
- **الأصالة / القيمة:** تسهم هذه الدراسة في تقديم إطار مفاهيمي جديد يربط بين أداء نظم CERP وجودة التقارير المالية في الشركات الصغيرة والمتوسطة. كما تؤكد على التكامل بين نظريات نظم المعلومات والمحاسبة، مما يوفر أساساً لأبحاث تجريبية مستقبلية. ويوفر الإطار أيضاً رؤى عملية لصناع القرار الراغبين في تحسين التقارير المالية من خلال اعتماد وإدارة فعالة لأنظمة ERP.
- **الكلمات المفتاحية:** نظم تخطيط موارد المؤسسات السحابية، جودة التقارير المالية، الشركات الصغيرة والمتوسطة، إطار التكنولوجيا-المنظمة-البيئة، نموذج ديون وماكلين لنجاح نظم المعلومات.