

The Influence of Digital Transformation on Accounting Practices: Evidence From the Saudi Arabia

Attia Eman^{1,2}, Anwar Afnan¹, Essam R. Salem^{3,4}, Silawi Abdullah¹,
and Ola Abd-Al kawi EL Saadani⁵

¹Accounting Department, College of Business Administration, University of Business and Technology, Jeddah 21448, Saudi Arabia

²College of Management and Technology, Arab Academy for Science & Technology and Maritime Transport, Giza, Egypt

³Business Department, Higher Colleges of Technology, Al-Ain, United Arab Emirates

⁴Accounting Department, Faculty of Commerce, Cairo University, Egypt

⁵Business Information System Department, College of Management and Technology, Arab Academy for Science & Technology and Maritime Transport, Giza, Egypt

Abstract

Digital transformation is reshaping the accounting profession worldwide, yet evidence from emerging economies remains fragmented. This study investigates the impact of digital transformation on accounting practices in Saudi Arabia, an economy undergoing rapid change under Vision 2030. Drawing on the Technology Acceptance Model (TAM), the Resource-Based View (RBV) and Dynamic Capability Theory (DCT), we conceptualise digital transformation through four key dimensions: adoption of cloud accounting, use of automation tools, accountants' digital literacy, and investment in digital training. We examine how these dimensions influence the quality and efficiency of accounting practices in Saudi manufacturing firms. Using a survey of accounting and finance employees, the study employs descriptive statistics and regression analysis to test the proposed hypotheses. The findings are expected to offer theoretical insight into how resources and capabilities shape digital transformation outcomes and to provide practical guidance for firms, regulators and educators seeking to enhance digital readiness in the accounting profession.

Keywords: Digital transformation, Accounting practice, Saudi Arabia context

INTRODUCTION

Digital transformation has emerged as one of the most significant developments reshaping modern accounting practices worldwide. Rapid advancements in cloud computing, artificial intelligence (AI), automation, blockchain, and big data analytics have fundamentally transformed the manner in which organizations manage financial information, conduct reporting processes, and support strategic decision-making (Gonçalves et al., 2022). Traditional accounting systems, which heavily rely on manual procedures and spreadsheet-based operations, are increasingly unable to

meet contemporary business requirements related to speed, transparency, compliance, and accuracy (Adeniran et al., 2024). Consequently, organizations are under growing pressure to modernize their accounting systems and adopt digital technologies that enhance operational efficiency and financial reporting quality. Digital transformation in accounting extends beyond operational efficiency and technological modernization. According to Manita et al. (2020), digitalization fundamentally alters organizational governance, accountability, transparency, and stakeholder trust. Technologies such as cloud accounting systems allow real-time access to financial information and improve collaboration among accounting professionals, while automation technologies reduce repetitive tasks and minimize human errors in reporting processes (Ma et al., 2021). Similarly, AI-driven accounting systems and big data analytics provide predictive insights that enhance organizational decision-making and strategic planning (Cockcroft & Russell, 2018).

In Saudi Arabia, digital transformation has become a strategic national priority aligned with Vision 2030, which emphasizes economic diversification, technological advancement, and modernization of financial and regulatory systems (Government of Saudi Arabia, 2023). The Saudi government has launched several initiatives, including the National Transformation Program and FinTech Saudi, to accelerate digital adoption and improve technological capabilities across sectors. These initiatives have significantly increased organizational awareness regarding the importance of cloud accounting systems, digital reporting platforms, and automation technologies in enhancing organizational competitiveness and sustainability. Despite the increasing adoption of digital accounting technologies, organizations continue to face substantial challenges associated with digital transformation. These challenges include cybersecurity risks, resistance to technological change, limited digital literacy, inadequate infrastructure, and uncertainty regarding the long-term benefits of digital investments (Hendrawan et al., 2024; Zhang et al., 2020). Such challenges are particularly relevant for manufacturing firms and small and medium-sized enterprises (SMEs), which often encounter resource limitations and organizational barriers during digital implementation processes.

Although prior research has extensively investigated digital transformation in accounting, existing evidence remains fragmented and context-dependent. Most previous studies have concentrated on developed economies, while limited empirical attention has been devoted to emerging markets, particularly Saudi Arabia. Furthermore, earlier studies often examined isolated dimensions of digital transformation, such as automation or cloud accounting, without integrating digital literacy and training investment into a comprehensive framework. Therefore, this study aims to examine the impact of digital transformation on accounting practices within Saudi Arabian manufacturing firms by investigating the influence of cloud accounting adoption, automation tools, digital literacy, and investment in digital training programs. The study contributes to the existing literature in several ways. First, it extends current knowledge on digital accounting transformation within the underexplored Saudi Arabian context. Second, it

integrates technological, organizational, and human-capital dimensions into a unified conceptual framework. Third, the study provides empirical evidence regarding the role of digital competencies and organizational readiness in improving accounting practices and financial reporting processes.

THEORETICAL FOUNDATION

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), proposed by Davis et al. (1989), represents one of the most influential theoretical frameworks explaining technology adoption behavior. TAM suggests that individuals' acceptance of technology is primarily determined by two factors: perceived usefulness and perceived ease of use. Within accounting environments, digital technologies such as cloud accounting systems and automation tools are more likely to be adopted when accounting professionals perceive these technologies as improving efficiency, reducing workload, and enhancing reporting accuracy. In the context of digital accounting transformation, TAM explains why organizations increasingly adopt cloud accounting systems and automation technologies to improve financial reporting and operational efficiency. Technologies that simplify accounting procedures, facilitate accessibility, and reduce manual errors are perceived as both useful and easy to use, thereby increasing their acceptance among accounting professionals (Gepp et al., 2018). However, although TAM effectively explains technology adoption intentions, it provides limited insights into broader organizational capabilities and strategic adaptation processes.

Resource-Based View (RBV)

The Resource-Based View (RBV) argues that organizations achieve sustainable competitive advantage through valuable, rare, inimitable, and non-substitutable (VRIN) resources (Barney, 1991). In digital accounting environments, technological infrastructures, cloud accounting systems, automation technologies, and digital competencies constitute strategic organizational resources capable of improving accounting efficiency, transparency, and financial reporting quality. RBV further emphasizes the importance of human capital and organizational capabilities in maximizing the benefits of technological investments. The effectiveness of digital accounting systems largely depends on employees' technological competencies and organizations' ability to integrate digital technologies into operational processes. Accordingly, digital literacy and digital training programs become essential organizational resources that enhance firms' ability to leverage technological transformation successfully. Additionally, RBV provides a useful theoretical foundation for understanding how digital accounting systems support sustainability and long-term organizational performance. Digital technologies facilitate integrated reporting, ESG disclosure, and transparency, enabling organizations to strengthen stakeholder trust and regulatory compliance (Wenzig, 2023).

Dynamic Capability Theory (DCT)

While RBV focuses on the possession of strategic resources, Dynamic Capability Theory (DCT) explains how organizations continuously adapt, reconfigure, and renew these resources in rapidly changing environments (Teece et al., 1997). DCT is particularly relevant in digital transformation contexts because technological environments evolve continuously, requiring organizations to develop adaptive and flexible capabilities. DCT identifies three core organizational capabilities: sensing, seizing, and transforming. Organizations must first identify opportunities and threats associated with digital technologies, including AI-driven accounting systems, blockchain applications, and cloud accounting platforms. Second, organizations must mobilize resources to implement digital technologies effectively. Third, organizations must continuously transform workflows, retrain employees, and redesign operational processes to maximize digital benefits. Within accounting environments, DCT explains how accounting professionals transition from traditional transactional roles toward strategic and analytical responsibilities through digitalization. In Saudi Arabia, DCT aligns strongly with Vision 2030 initiatives, which encourage organizations to strengthen digital capabilities and technological adaptability across sectors.

Integrating RBV and DCT

RBV and DCT complement each other in explaining digital transformation within accounting environments. RBV explains how technological resources and digital competencies create organizational advantages, while DCT explains how organizations dynamically adapt and reconfigure these resources to respond to evolving technological conditions. The integration of RBV and DCT provides a comprehensive framework for understanding why digital transformation produces positive outcomes in some organizations but limited results in others. Organizations that possess strong digital resources and adaptive capabilities are more likely to achieve improvements in accounting efficiency, reporting quality, and organizational performance. Conversely, firms with limited digital competencies or weak organizational readiness may experience minimal benefits from digital transformation initiatives.

EMPIRICAL LITERATURE REVIEW

Positive Effects of Digital Transformation

The literature widely recognizes digital transformation as a significant driver of efficiency, transparency, and strategic competitiveness within accounting practices. Studies conducted in developed economies emphasize the role of AI-driven auditing, cloud accounting systems, automation technologies, and big data analytics in improving financial reporting quality and reducing manual errors (Kokina & Davenport, 2017; Agostino et al., 2022). Cloud accounting technologies have particularly received substantial attention due to their ability to improve accessibility, collaboration, and real-time reporting. Ma et al. (2021) found that cloud-based accounting

systems significantly enhance organizational flexibility and operational efficiency among SMEs. Similarly, Saad et al. (2022) demonstrated that cloud accounting adoption positively influences accounting performance and organizational resilience, particularly during periods of economic uncertainty such as the COVID-19 pandemic. Automation technologies also contribute significantly to accounting transformation by reducing repetitive tasks and improving reporting reliability. Cockcroft and Russell (2018) argued that big data analytics and automation tools shift accountants' roles from routine transaction processing toward strategic analysis and decision-making. Furthermore, digital transformation facilitates sustainability accounting and integrated ESG reporting, thereby improving transparency and stakeholder trust (Wenzig, 2023). Within Saudi Arabia, digitalization is increasingly aligned with Vision 2030 initiatives aimed at enhancing financial transparency, technological innovation, and economic diversification. Government-supported initiatives, including FinTech Saudi and the National Transformation Program, have accelerated cloud accounting adoption and digital innovation within accounting environments.

Challenges and Negative Impacts of Digital Transformation

Despite the significant advantages associated with digital transformation, prior studies also identified several challenges and adverse consequences. In developed economies, automation and AI technologies may disrupt traditional accounting roles and create concerns regarding professional identity and ethical judgment (Leitner-Hanetseder et al., 2021). Overreliance on algorithmic systems may reduce human oversight and weaken professional skepticism in auditing and financial reporting processes (Sutton et al., 2023). In developing economies, structural and institutional limitations often constrain successful digital adoption. Hendrawan et al. (2024) found that SMEs frequently encounter infrastructural challenges, high implementation costs, and limited digital literacy. Similarly, Zhang et al. (2020) highlighted cybersecurity risks and weak regulatory frameworks as major barriers to digital accounting transformation. In Saudi Arabia, although digitalization efforts have accelerated considerably, SMEs continue to face resource limitations, inadequate managerial expertise, and resistance to technological change (Rawashdeh & Rawashdeh, 2023). These findings suggest that technological investments alone may not guarantee successful transformation unless supported by organizational capabilities and employee competencies.

Mixed Findings and Contextual Differences

The literature also presents mixed findings regarding the effectiveness of digital transformation. Several studies suggest that digitalization does not always generate substantial performance improvements and may produce only symbolic or superficial adoption outcomes. Moggon et al. (2024) argued that while organizations increasingly adopt big data technologies, many firms fail to integrate these technologies effectively into strategic decision-making processes. Similarly, Ghonyan (2020) found that digitalization improves

communication processes but does not necessarily enhance financial reporting quality in developing economies. Mugge et al. (2020) further emphasized that digital transformation outcomes largely depend on organizational readiness, strategic alignment, and employee competencies. These mixed findings reinforce the importance of RBV and DCT in explaining contextual differences in digital transformation outcomes. Organizations with strong digital capabilities, effective training systems, and adaptive organizational structures are more likely to benefit from digital accounting transformation than firms lacking technological readiness and strategic flexibility.

Although prior studies have extensively examined digital transformation in accounting, several important gaps remain unresolved. First, most existing studies focus primarily on developed economies, while limited empirical evidence exists regarding digital accounting transformation within emerging economies, particularly Saudi Arabia. Second, previous studies often examine isolated technological dimensions such as cloud accounting, AI, or automation independently, without integrating organizational capabilities, digital literacy, and training investment into a unified framework. As a result, existing literature lacks a comprehensive understanding of how technological and human-capital dimensions collectively influence accounting practices. Third, empirical findings regarding the impact of digital transformation remain inconsistent. While some studies report significant improvements in efficiency and reporting quality, others identify limited or mixed outcomes due to organizational, cultural, and infrastructural constraints. These inconsistencies suggest that the effectiveness of digital transformation depends heavily on organizational readiness, employee competencies, and strategic adaptation capabilities. Finally, the manufacturing sector within Saudi Arabia remains underexplored despite its strategic importance to Vision 2030 and national economic diversification initiatives. Therefore, this study addresses these gaps by empirically examining the combined influence of cloud accounting adoption, automation tools, digital literacy, and investment in digital training programs on accounting practices within Saudi Arabian manufacturing firms.

Conceptual Framework and Hypotheses Development

Based on the theoretical and empirical literature, this study proposes that digital transformation positively influences accounting practices through four major dimensions: cloud accounting adoption, automation tools, digital literacy, and investment in digital training programs. Cloud accounting systems improve accessibility, collaboration, and real-time reporting, thereby enhancing accounting efficiency and transparency (Ma et al., 2021). Automation technologies reduce repetitive tasks and minimize manual errors, improving reporting reliability and productivity (Kokina & Davenport, 2017). Digital literacy enhances employees' ability to utilize modern accounting technologies effectively, while investment in digital training programs strengthens organizational adaptability and technological readiness.

Accordingly, the following hypotheses are proposed:

- H1:** Adoption of cloud accounting software positively and significantly influences accounting practices.
- H2:** Use of automation tools positively and significantly influences accounting practices.
- H3:** Digital literacy positively and significantly influences accounting practices.
- H4:** Investment in digital training programs positively and significantly influences accounting practices.

RESEARCH METHODOLOGY

This study adopted a quantitative research approach to examine the impact of digital transformation on accounting practices within manufacturing firms in Saudi Arabia. The target population consisted of employees working in accounting and financial positions within manufacturing organizations operating in Saudi Arabia. This sector was selected because manufacturing firms increasingly rely on digital technologies to improve operational efficiency, reporting accuracy, and financial management processes. Moreover, manufacturing organizations are actively transitioning from traditional accounting systems toward modern digital accounting practices, making them suitable for investigating the impact of digital transformation. The study utilized a sample of 150 respondents representing accounting staff, accounting managers, and finance directors. The respondents were selected from different manufacturing sectors, including automotive, electronics, food and beverage, and textiles, which enhanced the diversity and representativeness of the sample.

Data were collected through a structured questionnaire designed to measure respondents' perceptions regarding digital transformation and accounting practices. The questionnaire items were developed based on previous literature and measured using a Likert-scale format. Descriptive statistics and multiple regression analysis were employed to analyze the collected data. Descriptive statistics were used to summarize demographic characteristics and respondents' perceptions, while regression analysis was utilized to evaluate the impact of digital transformation variables on accounting practices. Reliability and validity analysis confirmed the consistency and credibility of the measurement scales. Cronbach's Alpha values ranged between 0.720 and 0.928, indicating acceptable to excellent reliability levels. In addition, the correlation matrix demonstrated positive and statistically significant relationships among all variables at the 0.01 significance level, supporting the validity of the proposed conceptual framework.

EMPIRICAL RESULTS AND DISCUSSION

Descriptive statistics is used to profile respondents and summarise levels of digital transformation. Reliability and validity of the measurement scales will be assessed using Cronbach's alpha and factor analysis. Multiple regression (or structural equation modelling, if sample size permits) will be employed to

test the hypothesised relationships between digital transformation dimensions and accounting practices. The results will provide empirical evidence on the magnitude and significance of digital transformation effects in Saudi Arabia's manufacturing sector.

Demographic analysis shows that most of the participants selected were male (73.3%) and within the age bracket of 26 to 35 years (52.0%). Most have a Bachelor's degree (64.0%) and are in accounting staff positions (62.7%), implying that only general and middle career staff with primary education qualifications have responded most. The survey respondents encompass a significant proportion (61.3%) of employees with 1-3 years of experience; therefore, the participants are relatively new in their positions, which may make them more amenable to new technologies. The respondents are drawn from various industries, specifically the automotive industry (30% of the sample) and the electronics industry (the other 30%), followed by the food and beverage industry (20.7%) and the textile industry (19.3%). This method of industry representation provides a cross-sectoral view of the state of digital transformation, which increases the overall external validity of the findings regarding the types of manufacturing organizations.

Results of Adoption of Cloud Accounting Software

The results indicate that respondents generally hold positive perceptions toward cloud accounting software. Most participants agreed that the software improves accessibility and supports more efficient accounting processes, suggesting strong acceptance of cloud-based solutions within organizations. At the same time, opinions regarding financial data availability were more mixed, reflecting some uncertainty or limited understanding among participants about certain technical aspects of cloud accounting systems. The findings also show that collaboration and smooth transition features were positively evaluated, indicating that users believe cloud software enhances teamwork and facilitates easier adaptation within organizations. In addition, real-time tracking and reporting were viewed favorably, with many respondents acknowledging the software's role in improving decision-making and operational efficiency. Overall, the responses demonstrate a generally supportive attitude toward cloud accounting software, although a few areas—particularly accessibility and real-time data availability—showed greater variation in opinions compared to other factors.

Results of Use of Automation Tools in Accounting Practices

The findings indicate that respondents generally have a positive perception of automation tools in financial reporting. Most participants agreed that automation improves the reliability and accuracy of financial accounting processes while also minimizing repetitive tasks and reducing manual data entry errors. The results further show strong agreement that automation tools support regular updates, improve efficiency, and enhance the overall quality of financial reporting. Responses across the different questions were relatively consistent, as reflected by the low standard deviation values, indicating limited variation in participants' opinions. Overall, the study

demonstrates a high level of acceptance and satisfaction with automation systems in financial reporting, although there is still room for improvement in usability and inclusiveness to further strengthen system effectiveness.

Results of Digital Literacy Among Accounting Staff

The results reveal a strong consensus among respondents regarding the importance of digital literacy among accounting staff. Most participants agreed that employees possess appropriate digital competencies and demonstrate positive attitudes toward digital tools and technologies. The findings also indicate that training programs, skill assessments, and workshops contribute positively to improving digital competencies within organizations, as the mean scores for these items were generally above 3.5. In addition, the low standard deviation values suggest consistency in participants' responses and a shared perception of the effectiveness of digital literacy initiatives. However, a small percentage of neutral responses highlights opportunities for further improvement, particularly through expanding external professional training programs and continuous development activities. Overall, the study demonstrates a high level of support for enhancing digital literacy, emphasizing its important role in improving organizational performance and employee capabilities.

Results of Investment in Digital Training Programs

The findings demonstrate a highly positive perception of the role of digital systems and technologies in improving accounting and financial operations. Respondents generally agreed that digital tools enhance efficiency, facilitate communication, and support better organizational performance. The relatively high mean scores across the items indicate strong acceptance of digital transformation initiatives within the workplace. In addition, the low standard deviation values suggest consistency in participants' opinions, reflecting a shared belief in the effectiveness and usefulness of these technologies. Participants particularly recognized the contribution of digital systems to improving operational processes, supporting decision-making, and increasing overall productivity. Although a limited number of respondents expressed neutral views, the overall results strongly emphasize the importance of continuing digital development, employee support, and technology integration to further strengthen organizational performance and sustainability.

Results of Accounting Practices

The results indicate a strong positive perception of the effectiveness of digital transformation and technological integration within accounting and financial practices. Respondents largely agreed that digital technologies improve operational efficiency, enhance communication, and support more accurate and timely financial processes. The consistently high mean scores across the variables reflect broad acceptance and confidence in the use of digital systems within organizations. Moreover, the relatively low standard

deviation values demonstrate consistency in participants' responses, suggesting a shared understanding of the benefits associated with digital transformation. Participants particularly emphasized the role of technology in improving workflow efficiency, facilitating access to information, and supporting organizational performance and decision-making. Although a small proportion of respondents remained neutral on some items, the overall findings strongly support the growing importance of digital innovation and continuous technological development in strengthening accounting functions and enhancing organizational sustainability and competitiveness.

Regression Results

The regression analysis assesses the effect of the independent variables namely, Adoption of Cloud Accounting Software, Use of Automation Tools, level of digital literacy, and Investment in digital training programs on Accounting Practices which is the dependent variable.

Table 1: Regression analysis.

	Beta	Std. Error	t	P-Value
(Constant)	-0.072	0.139	-0.519	0.604
Adoption of cloud accounting software	0.229	0.035	5.962	0.000
Use of automation tools	0.289	0.032	7.094	0.000
Digital literacy	0.504	0.048	9.102	0.000
Investment in digital Training programs	0.132	0.058	2.367	0.019

Based on the results displayed on the model summary, it emerged that the R-Square value standby at 0.852 highlighting that about 85.2% of the variance of Accounting Practices can be explained by the involved predictor variables in the model. Further, validating the model with multiple predictors, the Adjusted R-Square of 0.848 confirm the stability of the model.

Moreover, the results indicate a positive and significant influence of Adoption of Cloud Accounting Software ($\beta = 0.229$, $p = 0.000$), Use of Automation Tools ($\beta = 0.289$, $p = 0.000$), Digital Literacy ($\beta = 0.504$, $p = 0.000$), and Investment in Digital Training Programs ($\beta = 0.132$, $p = 0.019$) on accounting practices.

Analysis of the Results

This section affirms the hypotheses outlined in the research and analyses the results arising from the variables highlighted in the study.

The response to the first of the sub-questions asked (In what ways has the use of Cloud accounting software affected accounting within organizations?) was to negate the hypothesis that Cloud accounting software has not significantly influenced financial management. From the results in Table 2, It was clear that the respondent agreed with the view that cloud software has

enhanced collaboration and made documents easily accessible; this validates the impact of cloud software in enhancing better practices in financial management within the organization.

To the second sub-question related to the impact of automation tools on the efficiency and accuracy of accounting practices, the research rejected Hypothesis 3, stating that automation tools make an insignificant contribution to the efficiency of Accounting. Table 3 indicates that most responses “Agreed” with the statement that automation tools decrease manual data entry mistakes and improve the reliability of financial reporting. These results show that automation tools are considered an effective means for increasing productivity and reducing errors in accounting; the obtained results are statistically significant.

The third sub-question (What is the level of digital literacy among accounting staff in adapting to digital transformation?) The negative hypothesis stating a low level of digital literacy among the accounting staff was dismissed. Consequently, the evidence-based on Table 4 implies staff concerns that can contribute to a positive attitude toward digital literacy because staff have the required digital skills and participate in digital training. This means that accounting staff are well-equipped to embrace the dynamics of digital change.

The response to the fourth sub-question (How do organizations invest in digital transformation practices to enhance AIS?) entailed the rejection of the null hypothesis positing that organizations do not invest adequately in digital transformation. The analysis of the results presented in Table 5 indicated that the majority of the respondents agreed with the statement that the organization provides sufficient resources for training in the field of digitalization while the organization adapts training to specific needs, which indicates a positive trend in digital training investment.

The fifth sub-question (What impact has digital transformation had on accounting practices?) was answered by rejecting the null hypothesis, which claimed that digital transformation had had minimal impact on accounting practices. The responses highlighted in Table 6 reveal that most respondents support the argument that digital transformation has brought less error rate and enhanced decision-making. However, the level of consensus on issues relating to transparency is lower. The overall trend confirms the hypothesis that the essence of digitization has included innovation of accounting practices with some potential for improvement.

CONCLUSION

The practices of accounting in Saudi Arabia have been revolutionized by the integration of technological solutions, including cloud technologies, automation solutions, and training solutions. Such advancements further extend to the improvement of many standard accounting tasks such as keying in data, performing the organization’s financial statements analysis, and so on while also making improvements in the decision-making processes and general organizational operations. The research supports that, digital transformation does provide competitive advantage in compliance and

organizational change demands from the accounting profession's various stakeholders. The findings also support the call for applied use of digital skills by accounting professional in the respective fields. Thus, it is crucial to ensure that the staff is well trained and well equipped to unlock the potential that comes with digital transformation exercises. As with cloud accounting and automation tools, the results reveal positive effects such as accuracy, efficiency, and collaboration support, and the responses suggest the consensus that cloud technologies are indispensable in modern businesses.

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