

The effect cloud accounting adoption on organizational performance in SMEs

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ABSTRACT

The study challenges the previous literature and assumes the digital vision as a proxy of intention among Technological, Organizational, and Environmental (TOE) factors and investigates the influence of TOE factors on cloud accounting adoption among Small and Medium Enterprises (SMEs). Furthermore, the effect of cloud accounting adoption on the organization's performance as measured by the balanced scorecard was evaluated. The data collection strategy employed an online survey of owners and managers using snowball methodology, in which the survey was automatically introduced to the respondents most likely to find relevant. The data was validated prior to SEM analysis. Seven of eight hypotheses were accepted, including the two hypotheses about the impact of the digital vision on cloud accounting adoption and the hypothesis about the impact of cloud accounting adoption on balanced scorecard-measures organizational performance. Despite the importance of the statistically significant factors in the study model, the digital vision was the most affected by the organizational readiness factor. The findings contribute to the TOE model by challenging the previous literature and assumption of digital vision as a proxy of intention among TOE factors. Future studies should use the TOE framework more caution if the intention is assumed to be a mediating variable.

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1. Introduction

Cloud computing, particularly cloud technology, has advanced dramatically over the last decade. Cloud technology has blurred the line between employee and office, as cloud technology, tools, and services pervade almost every aspect of business (Gangwar, Date, & Ramaswamy, 2015; Shetty & Panda, 2021). Organizations with a digital vision are thinking of new ways and methods for doing business online in a dynamic and challenging environment (Tajudeen, Nadarajah, Jaafar, & Sulaiman, 2021). The phrase "cloud accounting" refers to a type of accounting service that is delivered over the Internet and may be accessed from nearly anywhere by a large number of clients (Dimitriu & Matei, 2015). Over time, the cloud has grown in popularity, and more organizations are adopting cloud-based digitization to improve their organizational performance (Shetty & Panda, 2021). The cloud accounting model allows business organizations, including employees, vendors, and customers, to collaborate simultaneously over the Internet to access updated financial statements (Dimitriu & Matei, 2015). With the continuous growth of cloud computing, there has been an increase in studies related to cloud accounting (Dimitriu & Matei, 2015; Ma, Fisher, & Nesbit, 2021). However, it is common for studies to describe the benefits and disadvantages of cloud accounting without delving into why these factors influence client decisions and how businesses strive to solve them (Benlian and Hess, 2011). Cloud accounting has spread among SMEs in general recently in Jordan. Hence, the adoption of cloud accounting varies between SMEs, and many companies remain lagging in adopting cloud accounting compared to large companies. Therefore, the current study focuses on the factors affecting the adoption of cloud accounting, considering the

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mediating role of digital vision between predictive factors and cloud accounting adoption and then studying respondents' perceptions of the impact of cloud accounting adoption on business organizational performance.

By identifying technological, organizational, and environmental factors, owners and managers in SMBs can better understand cloud accounting adoption. Prior research on IT adoption has concentrated on intention and attitude (Hachicha & Mezghani, 2021; Ikumoro & Jawad, 2019; Katebi, Homami, & Najmeddin, 2022; Matias & Hernandez, 2021). However, according to Bellantuono, Nuzzi, Pontrandolfo, and Scozzi (2021), business leaders must first define their digital vision to develop a business-led technology road map. Miller and Dess (1996) described vision as a "category of intentions that are broad, all-inclusive and forward-thinking." The current study believes that the digital vision is more logical and expressive than the intention regarding technology adoption, which is the intent to do a thing. From a practical standpoint, the intention has no place in contracts; for example, the purchase and sale contract does not require an intention. Likewise, a business with a clear digital vision and strategy may not need the intention as much as it needs a plan to implement the vision. Individual actions have intentions, and some things at the individual level need intention, such as intentions for travel, purchasing personal needs, and others. However, it may be that a person usually has more than an intention according to attitude. The other reason for dropping the intention from the model is that the intentions of individuals within one business may be contradictory. You may find an employee with the intention and desire for technology adoption, and you may find another employee in the same business who does not have the intention and passion for technology adoption. The question that arises is which one represents the intention of technology adoption in the company. In addition, a person's mood, especially a good one, affects how likely they are to accept technology (Djamasbi, Strong, & Dishaw, 2010; Karimi & Liu, 2020). Therefore, it is critical to consider the impact of technological, organizational, and environmental factors on digital vision and cloud accounting adoption (Anwar, Shah, & Hasnu, 2016; Gobble, 2018; Gulati, Mikhail, Morgan, & Sittig, 2016).

Against this backdrop, the present study challenges the assumption of intention as a mediating variable among TOE factors and technology adoption in previous studies. As an alternative, the current study assumes that digital vision mediates the relationship between technological, organizational, and environmental factors and cloud accounting adoption in the TOE framework. Therefore, this study proposes that the intention should not be considered a mediating variable of cloud accounting adoption at the organization level. Instead, the authors suggest that vision (digital vision) mediates the influences of technological and organizational factors on cloud accounting adoption. Further, the authors contend that cloud accounting adoption impacts the perceptions of owners and managers on the organization's performance as measured by the balanced scorecard. Finally, it is essential to mention that the cloud accounting adoption level in the present study demonstrates the cloud accounting usage intensity. In summary, this study aims to address two objectives: (1) To examine the mediating role of digital vision in the relationship between technological and organizational factors and cloud accounting adoption. (2) To investigate the impact of cloud accounting adoption on organization performance as measured by the balanced scorecard. The outcome of this research contributes to the literature on the TOE model by challenging the assumption of mediating role of intention among TOE factors and technology adoption. By testing the mediating impact of digital vision, this study investigates whether previous studies on cloud accounting adoption among SMEs have underestimated the influence of TOE factors in favor of the intention to adopt the technology. Besides, by testing the perceptions of owners and managers' adoption effect of cloud accounting, this study illustrates the potential impact of cloud accounting adoption on organization performance as measured by the balanced scorecard. From a practical point of view, the present study is expected to provide managers of SMEs, policymakers, and cloud accounting service providers with a more precise understanding of the role of digital vision in technology adoption.

2. Literature Review

2.1 Cloud accounting

Although cloud accounting is not a new concept, in theory, it is believed to be a revolutionary development in business operations and accounting (Sobhan, 2019). Cloud accounting is an accounting service hosted remotely on the Internet that many clients can use from anywhere (Miller, 2008). Cloud accounting is often referred to as "online accounting," "web accounting," or "SaaS accounting software. It is a type of accounting that is hosted online by companies (Đorđević, Radović, & Bonić, 2018). Disruptive technologies such as artificial intelligence, big data, and blockchain are now being used in conjunction with cloud accounting platforms (Sastararujji, Hoonsopon, Pitchayadol, & Chiwamit, 2021). Cloud accounting is accounting software that is based on remote servers and is hosted only on remote servers, comparable to the SaaS (Software as a Service) business model (Janačković, Janačković, & Radiš, 2018). The data is transmitted to the "cloud," which processes and returns it to the user. Cloud accounting is frequently associated with the benefits of SaaS and the capabilities of accounting information systems (Hall, 2015). SaaS is the most popular cloud accounting service model, followed by Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Business Processes as a Service (BPaaS) (Dimitriu & Matei, 2015). SaaS is a software distribution paradigm in which a cloud provider hosts programs and makes them available to end-users via the Internet. An independent software vendor (ISV) may contract to host the application with a third-party cloud service provider in this arrangement. The systems are accessible via a web browser, but users cannot control the cloud infrastructure or apps. The only adjustments a user can make are within an individual application's settings. It enables clients to access application

software and databases anytime and from any location (Buyya, Pandey, & Vecchiola, 2009). They are typically compensated on a per-use basis. It has several significant effects on a business and its IT operations, including cost savings in hardware and software acquisition, maintenance, and management (Buyya et al., 2009; Shetty & Panda, 2021), increased efficiency, increased mobility, and flexible, scalable access to cutting-edge technology from global vendors without incurring additional costs (Gharpure, 2021; Ma et al., 2021).

IaaS is an acronym for "infrastructure as a service," which refers to a situation in which a user does not have control over the cloud infrastructure but does have control over apps and storage. Platform as a Service (PaaS) enables users to develop, run, and manage applications and may include design, development, and testing capabilities. In addition, this form is used to configure the hosting environment. PaaS can be public (provider-managed servers), private (installed or downloaded in a corporate data center), or a hybrid (a combination of public and private distributions) (Ma et al., 2021).

Business Process as a Service (BPaaS) is a cloud-based business process outsourcing (BPO) solution designed for numerous enterprises. Services are frequently automated, and where human process actors are required, there is no publicly defined workgroup for each client. Instead, consumer- or subscription-based pricing methods are used in business. The BPaaS paradigm is accessed via Internet-based technology as a cloud service (Woitsch & Utz, 2015).

Small and medium-sized enterprises frequently use SaaS; large businesses typically employ private cloud computing or dedicated servers in data centers. Accounting for business spending, billing clients, and receiving payments are the most common tasks of small and medium-sized organizations. Even though the number of businesses using cloud accounting has increased worldwide, significant corporations still outperform small and medium-sized businesses because they have a clear digital vision and well-defined goals for digital vision.

2.2 The balanced scorecard

The balanced scorecard enables senior management to see the business's performance in aggregate, reducing the number of metrics that may otherwise result in information overload. The balanced scorecard forces managers to prioritize the most critical metrics for the business. The balanced scorecard has been used by several companies and has benefited managers in two ways. To begin with, it streamlines the business's plan by combining customer orientation, reaction time, quality improvement, teamwork, product launch time reduction, and long-term management into a single management report. Second, it guards against suboptimization by requiring managers to analyze all four operational metrics concurrently. This enables them to discern whether gains in one critical area come at the expense of others (Kaplan & Norton, 1992). From the perspective of managers' and owners' perceptions of the new technology. The balanced scorecard has been used in numerous studies to determine how a new system or technology influences the company's organizational performance (Bhatiasevi & Naglis, 2020; Mehralian, Nazari, Nooriparto, & Rasekh, 2017).

2.3 TOE framework

The TOE framework is a theoretical framework for understanding how businesses embrace technology and demonstrating how the technological context, organizational framework, and environmental context influence the adoption and implementation of technological innovation (Tornatzky, Fleischer, & Chakrabarti, 1990). The TOE framework is commonly used in corporate technology adoption studies. Numerous studies have been conducted on this subject (Al-Hujran, Al-Lozi, Al-Debei, & Maqableh, 2018; Cho, Cheon, Jun, & Lee, 2021; Ganguly, 2022; Stjepić, Pejić Bach, & Bosilj Vukšić, 2021). According to several studies, the TOE framework is empirically sound and practical for explaining adoption in several technological innovation contexts (Awa & Ojiabo, 2016; Gangwar, Date, & Raoot, 2014). The TOE framework can be used to assess how businesses embrace innovation. 2016 (Awa and Ojiabo). Scientists criticize the framework for its lack of identified factors (Wang, Wang, & Yang, 2010). However, because each study has a unique context and metrics influencing technology adoption, the components and drivers differ according to technology type. Numerous research makes use of several contextually relevant factors. The TOE framework does not contain a specific temple of factors. As a result, the studies extend the framework to achieve their objectives, which is compatible with most models and theories. Despite this limitation, it might be considered a strength rather than a weakness in the context of this study. Despite various shortcomings revealed by numerous scholars, the TOE Framework permits the addition of variables related to adoption (Wang et al., 2010).

Numerous factors can influence the adoption of present or emerging company-relevant technologies, depending on the technical environment. The TOE framework establishes the organizational context for adoption by examining the organizational aspects that obstruct or assist technological innovation deployment. The TOE framework places the company in the environment where its activities are carried out. Additionally, the external environment, such as the organizational context, may impose limits or opportunities for adopting technical advances (Bhatiasevi & Naglis, 2020; Wang et al., 2010). That is why this study will examine how businesses use cloud accounting from three perspectives: the technological context (relative advantage and compatibility), the organizational context (organization readiness and management support), and the environmental context (competitive pressure and vendor support), with a focus on digital vision and digital adoption strategy, and organizational performance as a mediating variable and independent variable, respectively. Yau-Yeung, Yigitbasioglu, and Green (2020) categorize the factors influencing technology adoption into three broad groups: first technological factors. Similar to other technology, the adoption of cloud accounting is also known to be affected by technological factors, such as relative advantage and compatibility (Hasan, 2007). According to Sadeeq et al. (2021), the compatibility of business technology

capabilities with the cloud plays a vital role in the adoption process (Sadeeq et al., 2021). Cloud accounting solutions are challenging for organizations as they require the ability to migrate accounts and transactions without facing compliance concerns (Brender & Markov, 2013). The study assumes that managers having a comprehensive awareness of the digital vision will have an active role in the adoption process (Ulas, 2019). To determine if cloud accounting is an appropriate technology for improving organizational performance, it is necessary to understand its advantages over other modern technologies (Yunis, Tarhini, & Kassar, 2018). Second, organizational factors, cloud accounting adoption is affected by organizational factors (Yau-Yeung et al., 2020). Cloud accounting adoption requires a business's management and board of directors to closely examine changes to the organization's culture, procedures, and work relationships (Giessmann & Legner, 2016). The desire of top management to recognize the economic benefits and competitiveness of cloud accounting and to adopt it within the business is also critical in securing suitable financial investment and technological competence, which are the primary factors (Moll & Yigitbasioglu, 2019).

Additionally, cloud accounting services involve specialist human resources, such as accountants with accounting abilities, computer skills, and IT competence (Moll & Yigitbasioglu, 2019). Thirdly, there are environmental concerns around cloud accounting (Yau-Yeung et al., 2020), including competitiveness and vendor support for cloud accounting services. Understanding managerial perceptions of competitive pressure is a significant factor affecting cloud accounting adoption (Ma et al., 2021). Additionally, cloud service providers assist in adopting cloud accounting (Ma et al., 2021). Their accessibility and assistance, as well as cloud accounting's security concerns over third-party access to their data, data transmission, and data storage, all represent affecting factors to cloud accounting adoption (Taha, Ramo, & Alkhaffaf, 2021). As a result of the preceding discussion, it can be concluded that technological, organizational, and environmental factors all affect the digital vision towards building a cloud accounting adoption strategy, which in turn affects organizational performance.

2.3.1 Technology context

2.3.1.1 Relative advantage

The relative advantages of technology over its alternatives are critical in determining its adoption by a business. Rogers (1995) defines relative advantage as "the extent to which a technological component is judged to be more advantageous to businesses". Cloud accounting makes company accounts and financial data accessible anywhere, anytime (Dimitriu & Matei, 2015). Using desktop-based technology to connect employees to the office, cloud accounting has cost savings, scalability, flexibility, mobility, and resource-sharing advantages over traditional desktop accounting (Sastararuji et al., 2021; Yau-Yeung et al., 2020). Cloud accounting reduces the annual burden of managing IT infrastructure. It reduces IT operations costs. Cloud accounting customizes services to meet businesses' needs (Dimitriu & Matei, 2015). As cloud accounting requirements grow, cloud users should be able to scale up their storage, server count, processing, and bandwidth to meet adaptors' needs (Nayyar, 2019; Voorsluys, Broberg, & Buyya, 2011). Mobility lets users access and edits documents from anywhere. Because firm data is stored on a cloud server, employees can work from anywhere with Wi-Fi and Internet (Sastararuji et al., 2021). Cloud accounting's shared resources allow employees to access cloud-based resources from anywhere, saving firms time and money (Dimitriu & Matei, 2015; Miller, 2008). This conversation led to the following hypothesis:

H₁: *Relative advantage has a direct positive influence on digital vision.*

2.3.1.2 Compatibility

Rogers (2003) defined *compatibility* as "the degree to which an innovation is considered to be consistent with potential adopters' existing values, prior experiences, and requirements." Later in the article, Calisir, Gumussoy, and Bayram (2009) define the phrase as "the extent to which the innovation is consistent with the potential consumers' existing values, prior experiences, and requirements." Perceived compatibility considers whether a business's existing beliefs, behavioral patterns, operational processes, and experiences are reconcilable with new technology (Gangwar et al., 2015). Many studies have shown that compatibility is essential in getting companies to use IT (Awa & Ojiabo, 2016; Gangwar et al., 2015). It is believed that the more closely aligned the cloud accounting platforms are with the business's needs, the more capacity the company will have to leverage the benefits of cloud accounting and the greater the possibility of increasing the compatibility between the technology in question and the business. In the case of cloud accounting, it is necessary to determine whether the technology is compatible with the business's existing IT infrastructure and requirements.

H₂: *Compatibility has a direct positive influence on digital vision.*

2.3.2 Organization context

2.3.2.1 Organizational Readiness

Tan, Tyler, and Manica (2007) defined *organizational readiness* as 'managers' perspective and assessment of the extent to which they believe their business possesses the awareness, resources, commitment, and governance necessary for IT adoption.' It has been broadly defined in terms of two dimensions: financial preparedness (financial resources for cloud accounting implementation and ongoing expenses associated with usage) and technology readiness (infrastructure and human resources

for cloud accounting usage and management) (Cho et al., 2021; Gangwar et al., 2015; Tan et al., 2007). This study suggests that businesses with excellent infrastructure, skilled people, and financial support have more expansive, all-inclusive, and forward-thinking goals toward developing a digital vision such as cloud accounting. Therefore, according to the study, organizational readiness will positively affect businesses' digital vision toward cloud accounting adoption. As a result of this conversation, the following hypothesis has been developed:

H₃: *Organizational readiness has a direct positive influence on digital vision.*

2.3.2.2 Top management support

As with other management disciplines, the literature on IT adoption has recognized the need for senior management support in initiating, implementing, and implementing various information technologies. Salwani, Marthandan, Norzaidi, and Chong (2009) define it as top executives' opinions and actions regarding using technical innovation to improve business performance. It ensures long-term vision, values reinforcement, resource commitment, optimal resource management, growth of a pleasant organizational atmosphere, increased individual self-efficacy, assistance in overcoming hurdles, and reluctance to change (Al-Hujran et al., 2018; Gangwar et al., 2015; Wang et al., 2010). Regarding information technology adoption, it is expected that top management demonstrates a culture of enterprise-wide information sharing, provides strong leadership, and participates in the process (Awa & Ojiabo, 2016; Salwani et al., 2009). They are also likely to view cloud accounting adoption as strategically important and willing to take risks associated with cloud accounting adoption. According to the study, top management support will positively affect businesses' digital vision toward cloud accounting adoption. As a result of this conversation, the following hypothesis has been developed:

H₄: *Management support has a direct positive influence on digital vision .*

2.3.3 Environment context

2.3.3.1 Competitive Pressure

The earliest stages of technology adoption studies have acknowledged the importance of competitive pressure as an effective motivator (Ganguly, 2022; Gangwar et al., 2015; Stjepić et al., 2021). Zhu and Kraemer (2005) defined it as "the degree to which a business feels pressure from competitors in its industry." It is often believed to significantly affect IT adoption, mainly when technology directly affects the competition, and it is a strategic requirement to adopt new technologies to compete in the market (Awa & Ojiabo, 2016). This scenario is assumed when it comes to cloud accounting. Adopting innovation enables it to influence the competitive environment in terms of competition rules and industry structure and outperform competitors (Vives, 2008). According to this study, competitive pressures will positively affect businesses' digital vision toward cloud accounting adoption. As a result of this conversation, the following hypothesis has been developed:

H₅: *Competitive pressure has a direct positive influence on digital vision .*

2.3.3.2 Vendor Support

In cloud accounting, trading partners are associated with cloud service providers. Service providers must keep data available at all times, or more precisely when clients require it (Awa & Ojiabo, 2016; Gangwar et al., 2015). This raises questions about the efficacy of cloud service providers. Awa and Ojiabo (2016) claim that adopting a high availability design and thoroughly testing the platform and apps ensures data availability at all times. However, Gangwar et al. (2015) raised several concerns about availability, including the effectiveness of server efficiency, points of failure, and the cloud provider's faithfulness in running the hosted application and producing valid results. Additionally, Awa and Ojiabo (2016) identified another significant problem with availability: vendor availability. While providing their services, cloud service providers are needed to solve problems. Additionally, support is a critical component of problem resolution in the cloud accounting and on-premises computing environments for which enterprises and end-users pay cloud service providers. Thus, cloud accounting vendors must acquire and educate sufficient support staff to provide their clients with the best possible service (Awa & Ojiabo, 2016; Kim, 2009). Security is another worry when it comes to trade partners. Cloud accounting security is more than simply authentication, authorization, and accountability; it also includes data protection, disaster recovery, and business continuity (Dimitriu & Matei, 2015; Wicaksono, Kartikasary, & Salma, 2020). According to the study, vendor support will positively affect businesses' digital vision toward cloud accounting adoption. As a result of this conversation, the following hypothesis has been developed:

H₆: *Vendor support has a direct positive influence on cloud accounting adoption.*

2.4 Digital vision and Cloud accounting adoption strategy and Organizational performance (Balanced scorecard)

The term "digital vision" refers to a company's desire to integrate digital technology into every part of an organization (Dremel, Wulf, Herterich, Waizmann, & Brenner, 2017). A digital vision is the most accurate forecast of the intended future state and activities than the intention of individuals. The vision establishes forward-thinking and determines the significant factors of the future position. It gives a clear picture to aid managers in making decisions about resources, priorities, capabilities,

budgets, and the scope of activities (Stark, 2020). For this study, the term "vision" can be defined as a source of perceptions, values, ideas, methods of thinking, and higher goals and objectives of an organization. Schwertner (2017) points out that leaders should analyze their organizations' existing state of cloud to establish where and how cloud accounting technologies might be integrated into organizations. Reijnen et al. (2018) refer to it as vital to begin the digital journey with a clear vision. According to Tajudeen et al. (2021), the vision and strategy are related. According to prior research, having a clear vision for digitalization enables businesses to innovate more effectively and be more open to technology (Niemand, Rigtering, Kallmünzer, Kraus, & Maalaoui, 2021). This relationship, however, has not been empirically explored in the context of cloud accounting (Niemand, Rigtering, Kallmünzer, Kraus, & Matijas, 2017). Thus, this study argues that the digital vision will positively affect cloud accounting adoption. As a result of this conversation, the following hypothesis has been developed:

H7: *digital vision has a direct positive influence on digital adoption strategy.*

2.5. Cloud accounting adoption and Organizational performance

This study aims to test the perceptions of managers and owners about the effect of adopting cloud accounting on the performance of the organization as measured by the balanced scorecard. Kaplan and Norton (1992) conducted a year-long study including 12 performance measurement leaders to develop a balanced scorecard that would provide senior managers with a collection of metrics that would enable them to quickly and comprehensively examine their business. The rationale for this new paradigm was that they believed traditional financial and accounting measurements such as return on investment (ROI) and returns on assets (ROA) presented an incomplete picture of a business's entire performance, impeding future business value generation. To address this problem, Kaplan and Norton (1992) proposed viewing a business's performance through four lenses: financial, customer, internal process, and learning and growth, as illustrated in Figure 1. Gavrea, Ilies, and Stegorean (2011) recognized organizational performance as a critical variable in management research. Adoption of technology generally has a positive effect on the organizational performance of the business (Ainin, Naqshbandi, & Dezdar, 2016; Bhatiasevi & Naglis, 2020). The balanced scorecard, developed by Kaplan and Norton (1992), will be used to assess organizational performance in this study. The balanced scorecard consists of four components: customers, finance, internal processes, and learning and growth. In this study, cloud accounting adoption by SMEs will enable them to improve customer satisfaction while promoting the business's image and reputation (Bhatiasevi & Naglis, 2020). Financially, cloud accounting adoption increases a business's return on investment, assets, profit margins, and market share. Adopting cloud accounting will also assist SMEs in optimizing their internal operational and workflow procedures. However, there is a dearth of empirical research on the influence of cloud accounting adoption on the performance of organizations as measured by the balanced scorecard. It is projected that the digital adoption strategy and implementation of cloud accounting will positively affect the organization's performance. As a result of this conversation, the following hypotheses have been developed:

H8: *Cloud accounting adoption has a positive influence on organizational performance.*

3. Data Analysis

3.1 Measurement of the factors

As stated previously, the TOE framework (Tornatzky et al., 1990) established the instrument's reliability and validity through its adaptability and extensive use in various diverse studies. This study offers a comprehensive model by merging the TOE framework, a digital vision, and the balanced scorecard-measures performance of a business. The items on a seven-point Likert scale ranging from "strongly disagree" to "strongly agree" were modified based on the past literature and research scales. The items were organized as a targeted online survey for this investigation.

3.2 Sampling

Our sampling methodology includes a sample of owners and managers of SMBs in Jordan's service, industrial, and commercial sectors, thereby having respondents from all industries. Furthermore, based on critical mass theory (Bingham & McNaught, 1976; Bouchard, 1993) and the assumption that cities with high socioeconomic status are convergent and appear more prone to comfort-based values than cities with low socioeconomic status, which often emphasize values based on necessity, cities with high socioeconomic status are more prone to comfort-based values than cities with low socioeconomic status (e.g., innovations designed to correct some specific shortcomings). The sampling methods were purposive and snowball; we utilized our empirical knowledge and judgment to select the initial few cases whose opinions best represent the community and then rely on referrals for more direction. To reduce the chance of bias that comes with non-probability sampling, we use (Awa, Ukoha, & Emecheta, 2016; Kidder & Selltiz, 1981) description of the population to narrow down the bias. The participants of the present study were owners or managers and were considered to be the most well-informed about their organization's performance and environment (Qalati, Yuan, Khan, & Anwar, 2021)

Participants in the present study were owners or managers who were deemed to be the most knowledgeable about the performance and environment of their organization (Sikandar Ali, 2020). Using Google Forms, a survey was created to collect information from various SMEs. This research utilized a closed-ended questionnaire to collect data. Online or web-based surveys are an essential and authentic instrument for new research and represent a quick, simple, and inexpensive data

collection method (Adam, 2020). Respondents were assured that their participation would remain voluntary, confidential, and anonymous in consideration of ethical concerns. Over three months, data were collected to mitigate common method bias (CMB) issues (Li et al., 2020). According to the G*Power software, the estimated sample size is 197, but 390 respondents clicked the link on the first page to access the questionnaire. In this study, 390 questionnaires were distributed via email and social media, and 277 valid responses were received for a 71 percent response rate.

3.3 Questionnaire Design

The questionnaire has 45 items, five of which pertain to demographics, 24 to TOE framework elements, seven to digital vision and cloud accounting adoption, and nine to organizational performance (balanced scorecard). The questionnaire was developed after a comprehensive literature review on technology adoption, digital vision, and the balanced scorecard; it is based on the hypothesized model shown in Figure 1. After submitting the questionnaire to an academic and professional group. As part of a pilot test, 45 respondents filled out the questionnaire and provided useful input. In response to feedback from participants in the pilot project, the questionnaire was revised to boost its readability while preserving its relevance and precision.

3.4 Measurement Validity

The data were analyzed using factor analysis. When principal component analysis (PCAs) and varimax rotations are applied, the Kaiser-Meyer-Olkin (KMO) value is 0.73, which is greater than the recommended value of 0.50 and identical to the initial value (Williams, Onsmann, & Brown, 2010). The test findings indicated that the test was successful, ranging from 0.755 to 0.921 for factor loadings (Table 1). In addition, Cronbach's alpha values were more than 0.70 for all variables (Taber, 2018).

Table 1
Factor analysis

	Component					
	1	2	3	4	5	6
READ2	0.921					
READ3	0.912					
READ4	0.862					
READ1	0.815					
MASU3		0.915				
MASU2		0.912				
MASU4		0.833				
MASU1		0.818				
VESU3			0.913			
VESU2			0.908			
VESU4			0.834			
VESU1			0.774			
COPR3				0.914		
COPR2				0.893		
COPR4				0.834		
COPR1				0.772		
ORRE3					0.909	
ORRE2					0.885	
ORRE4					0.844	
ORRE1					0.755	
COMP3						0.901
COMP2						0.884
COMP4						0.792
COMP1						0.767
KMO and Bartlett's Test						
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.						0.731
Bartlett's Test of Approx. Chi-Square						4402.989
Sphericity df						276
Sig.						0.000

3.5 Convergent Validity

Structural equation modeling (SEM) with AMOS 24 was used in this study to assess the structural model's convergent and discriminant validity and the model's hypotheses. Convergent validity assesses the degree of agreement between multiple indicators of the same construct. To determine convergent validity (Table 2), one must consider the indicator's factor loading, composite reliability (CR), and average variance extracted (AVE) (Blunch, 2012). The value is between 0 and 1. To be considered adequate for convergent validity, the AVE value should be greater than 0.50 (Table 2). (Blunch, 2012).

Table 2
Validity Analysis

	CR	AVE	MSV	MaxR(H)	1	2	3	4	5	6
Relative Advantage	0.91	0.72	0.01	0.92	0.85					
Manag Support	0.90	0.70	0.01	0.91	-0.04	0.84				
Compet Pressure	0.89	0.68	0.01	0.90	0.04	-0.08	0.82			
Vendor Support	0.90	0.69	0.01	0.90	0.02	0.05	-0.10	0.83		
Organi. Readiness	0.89	0.67	0.02	0.90	0.07	0.07	0.07	0.06	0.82	
Compatibility	0.88	0.64	0.02	0.89	-0.01	0.07	-0.09	0.01	0.153*	0.80

3.6 Discriminant Validity: Heterotrait-Monotrait (HTMT) criterion

Correlations between measures of potentially overlapping conceptions reflect an item's ability to distinguish or quantify unique notions. The findings of the HTMT analysis are shown in Table 3 and Figure 1. According to Henseler, Ringle, and Sarstedt (2015), the HTMT results in Table 3 indicate that there are no concerns with discriminant validity when the (HTMT ≤ 0.85) criteria are employed, which is consistent with the study's findings. As a result, the HTMT criterion is focused on ensuring that latent constructs are not collinear (multicollinearity). This indicates that each component is independent of the others.

Table 3
HTMT Analysis

	1	2	3	4	5	6
Relative Advantage						
Management Support	0.029					
Competitive Pressure	0.03	0.085				
Vendor Support	0.037	0.04	0.099			
Organizational Readiness	0.067	0.078	0.081	0.047		
Compatibility	0.029	0.064	0.098	0.001	0.141	

3.7 Common Method Bias

Before analyzing the data, common method bias (CMB) was checked for and attempted to be eliminated when developing the survey (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). More specifically, participants were urged to submit their responses freely.

Table 4
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.593	14.971	14.971	3.593	14.971	14.971

Additionally, CMB was empirically validated using Harman's single factor technique. It was determined whether a single component possessed predominating explanatory power. CMB used Harman's single-factor analysis. It is accomplished by conducting an unrotated factor analysis on the data to determine if any segment accounts for more than 50% of the variation that can occur due to CMB. However, the results indicate that the first factor accounted for just 14.97 percent of the overall variance (Table 4), less than 50%, indicating that the presence of CMB does not threaten the data. This suggests it is time to move to causal modeling (Fig. 1).

3.8 Model Fit Measures

In terms of absolute fit (Blunch, 2012; Collier, 2020), the observed values of 1216.859; 0.618; 0.954; 0.049 for CMIN; PClose; CFI; and RMSEA indicate a good model fit by the recommended value. In incremental fit measures, an observed value of 0.804; 0.950; 0.892 for AGFI; TLI; and NFI corresponds to a satisfactory model fit. In parsimonious fit metrics, a practical value of 0.894; 0.894 for PNFI; 0.736 for PGFI indicates that the model fits well within the suggested range. The results of a structural testing model based on goodness-of-fit criteria are shown in Table 5.

Table 5
Model Fit Measures

Measure	Estimate	Threshold	Measure	Estimate	Threshold
Absolute Fit Measures			Incremental Fit Measures		
CMIN	1216.859	--	TLI	0.950	Close to 1
DF	731	--	AGFI	0.804	≥ 0.90
CMIN/DF	1.665	Between 1 and 3	NFI	0.892	≥ 0.90
CFI	0.954	>0.95	Parsimonious Fit Measures		
RMSEA	0.049	<0.06	PNFI	0.894	Close to 1
PClose	0.618	>0.05	PGFI	0.736	Close to 1

2.9. Demographic Profile

The number of companies that employ less than 20 employees represents 66% of the sample members. Most companies work in the commercial sector, 76%, and most employees are males at 75%. Most of the sample members have an Undergraduate degree. The age percentage distribution of the sample members was close (Table 6).

Table 6
Demographic Profile

	Profile of the companies	Frequency	Percent
Number of Employees	>20	183	66%
	>50	30	11%
	>250	64	23%
Sector	Manufacturing	51	18%
	Trading	210	76%
	Services	16	6%
Gender	Male	208	75%
	Female	69	25%
Education	Secondary qualification	28	10%
	Diploma	22	8%
	Undergraduate degree	180	65%
	Postgraduate degree (Master/PhD)	47	17%
Respondent Age	20-30 Years	55	20%
	31-40 Years	64	23%
	41-50 Years	50	18%
	51-60 Years	61	22%
	>60 Years	47	17%

3.10. Analysis Model

Based on definitions, initial scale items were adapted. A pilot study ensured content validity. Item analysis was used to remove and refine items, further streamlining and purifying the scales. Forty-one items were analyzed for Factor Analysis, Kaiser-Meyer-Olkin (KMO) value, Convergent Validity, Validity Analysis, HTMT Analysis, Common Method Bias, Absolute, and Incremental Fit Measures, and Parsimonious Fit Measures. Strong scales. 277 online respondents. These findings validate the scales. To establish the statistical significance of parameter estimations produced by SEM, the test statistic CR (Critical Value) is used. It is defined as the parameter estimate divided by the standard error of the parameter estimate (SE). At a 0.05 level of significance, the CR value must be greater than or equal to 1.96 (Blunch, 2012; Collier, 2020). If this parameter has a value smaller than this, it can be considered unimportant to the model's performance. According to Table (7) findings, the following study model's hypotheses (Figure 1) are accepted. They have a statistically significant positive effect on the digital vision, relativity advantage (0.356), management support (0.368), competitive pressure (0.352), organizational readiness (0.434), and compatibility (0.293), as shown in Table 7 and Fig. 1. Additionally, the study revealed that vendor support had no significant effect on the digital vision (-0.018). The results show that the digital vision is influenced by many technological, organizational, and environmental factors. The results showed a positive effect of digital vision on cloud accounting adoption (0.872) that is well-defined. Also, the results showed that cloud accounting adoption impacted the organization's performance (0.84) (Table 7). The findings indicate that the digital vision fully mediates the effect of predictive variables (relative advantage, compatibility, organizational readiness, top management support, and vendor support) on cloud accounting adoption (Table 7).

Table 7
Regression Weights for Digital transformation vision

		Estim	S.E.	C.R.	P	Beta
Digital Vision	← Relative Advantage	0.249	0.032	7.866	***	0.36
Digital Vision	← Management Support	0.257	0.033	7.755	***	0.37
Digital Vision	← Competitive Pressure	0.246	0.032	7.592	***	0.35
Digital Vision	← Vendor Support	-0.012	0.03	-0.411	0.681	-0.02
Digital Vision	← Organizational Readiness	0.303	0.035	8.704	***	0.43
Digital Vision	← Compatibility	0.205	0.031	6.68	***	0.29
Cloud Acc Adoption	← Digital Vision	1.014	0.05	20.216	***	0.87
Org. Performance	← CloudAcc Adoption	0.763	0.041	18.751	***	0.84

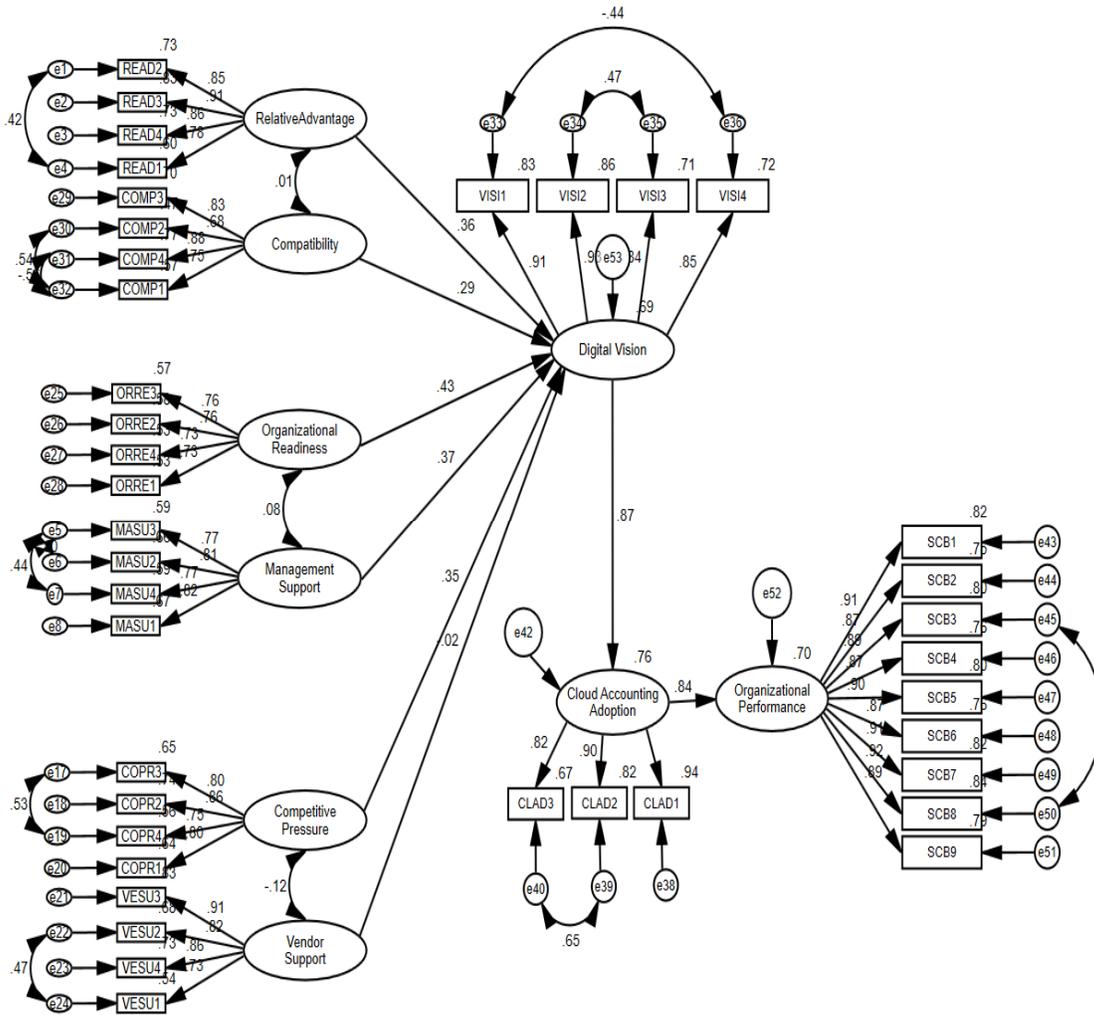


Fig. 1. Study Model

4. Discussion

The study aimed to determine the factors affecting the adoption of cloud accounting by assuming the mediating role of digital vision as an alternative to intent in SMEs and then testing the impact of technology adoption on the organization's performance as measured by the balanced scorecard. Six key factors (relative advantage, compatibility, organizational readiness, top management support, competitive pressure, and vendor support) were postulated to be determinants of the digital vision as Miller and Dess's proxy of intention. It has also been argued that intention is appropriate at the individual level and not at the organization level. This effort was successful in a number of ways. The scales were discovered to have robust features and demonstrated significant empirical correlations with digital vision. As a result, the results showed a complete mediation of the digital vision between technological, organizational, and environmental determinants and the adoption of cloud accounting. As a result, new insights on the mediating role of digital vision were gained as a determinant of adoption. This result challenges previous research that incorporated intention into its models and considered that intention explains the company's willingness to adopt, even though it represents the individual level only. As assumed, cloud accounting adoption was shown to be significantly connected with organizational performance when seen through the lens of the owner's and managers' perceptions. The mediating role of digital vision and the effect of adopting cloud accounting on the organizational performance of the organization as measured by the balanced scorecard are among the most noteworthy findings. The prominence of the digital vision makes conceptual sense in businesses that have all-inclusive and forward-thinking. businesses are motivated to adopt a digital vision primarily due to their organizational readiness and management support; secondarily due to the degree to which a technological factor is perceived to provide greater benefit to businesses and enough compatibility with the culture of the organization and its operations; thirdly, because of the environmental factors represented by the competitive pressure that the organization feels from its competitors in the market. Supplier support has not significantly affected the digital vision, and this may be because the organization when developing its digital vision takes into account the existence of various alternatives from suppliers; therefore, the role of the supplier does not constitute pressure for adoption.

5. Conclusion

The study's conclusions are informative on both a theoretical and practical level. To validate theoretical contributions, a full model was constructed and tested that included the TOE framework, a digital vision, and organizational performance measured by a balanced scorecard. While the TOE framework was widely utilized in technology adoption studies, the current study sought to incorporate it with the digital vision as a proxy of intention in a great challenge to previous literature, then explore the perceptions of managers and owners about the effect of adopting cloud accounting on organizational performance as measured in the balanced scorecard. The findings present several practical implications for managers of SMEs, policymakers, and cloud accounting service providers. This study finds that having a digital vision performs a distinguished mediating role in the process of cloud accounting adoption. Having a digital vision is particularly important among SMEs because smaller businesses generally seek growth and expansion. In most SMEs, vision represents a category of intentions that are broad, all-inclusive, and forward-thinking, where owners hold the role of CEO, which represents less complicated and centralized decision-making processes. Furthermore, as some SMEs are less likely to have established a clear digital vision to steer the technology adoption, the managers should play an extensive role in establishing a clear digital vision if the company wants to expand and integrate into the age of technology. This finding recommends that SMEs should actively support the technology adoption process and provide an enabling environment with a clear vision. This study investigated the drivers of digital vision, considering the importance of clear digital vision in successful technology adoption. The results showed that organizational readiness, management support, comparative advantage, cloud accounting alignment with current practices and corporate culture, and competitive pressure are the primary factors influencing digital vision on cloud accounting adoption. Also, cloud accounting providers can utilize the study model to make investment decisions, meet client needs, and develop marketing methods that appeal to current and prospective customers and encourage loyalty. For instance, a supplier can target a business that already has a digital vision and thus incentivize it to embrace cloud accounting, or it can be enticed to establish its own digital vision in the near future and assist it in developing a strategy that aligns with this digital vision. Therefore, the current study recommends including the strategy in future studies. The study provided useful results about the perceptions of owners and managers about the effect of adopting cloud accounting on performance in the organization. The study challenges the findings of previous studies that have paid insufficient attention to the impact of the digital vision as a proxy for the intention on organizational performance. In the future, researchers may consider incorporating additional mediating variables into their studies (e.g., strategy) and/or improving the method of sampling using a targeting model. Social media tools like audience targeting can be used by researchers to simultaneously target one or more geographic areas.

Declaration of competing interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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