

# CLOUD-ACCOUNTING INFORMATION SYSTEMS ADOPTION AND ITS EFFECT ON ENTERPRISE ECONOMIC SUSTAINABILITY

## **Zaid Jaradat\***

Assistant Professor, Department of Accounting, School of Business, Al al-Bayt University, Jordan.  
\*Corresponding author Email: z.jaradat@aabu.edu.jo

## **Mahmoud Ali Jaradat**

Professor, Banking and Finance Department, School of Business, Al al-Bayt University, Jordan.  
Email: Mahmoud.Jaradat @aabu.edu.jo

## **Muhannad Nazzal**

Professor, Department of Accounting, School of Business, Al al-Bayt University, Jordan.  
Email: dr.muhammadahmad@aabu.edu.jo

## **Mohammad Jbarah**

Assistant Professor, Department of Accounting, Faculty of Business, Middle East University, Jordan.  
Email: mjbarah@meu.edu.jo

## **Omran Ahmad Al-Ibbini**

Assistant Professor, Department of Accounting, Faculty of business, Al-Zaytoonah University of Jordan.  
Email: o.allbbini@zuj.edu.jo

### **Abstract:**

This study put forth a model for identifying the critical elements influencing the economic sustainability of SMEs. The study was supported by the Resource Based-View theory (RBV), and SME managers served as the study's sample population. The findings indicated that training had a considerable positive impact on the adoption of cloud accounting information systems and the economic sustainability of SMEs. Additionally, cloud AIS has a favorable impact on business economic sustainability. The study model could be used by SMEs to decide their survival tactics in times of crisis.

**Keywords:** Economic Sustainability; Cloud AIS; Training; RBV; SMEs; Jordan.

## **1. Introduction**

The COVID-19 epidemic in 2019 had a significant impact on the world economy, and it was anticipated that this decrease in GNP would last for several years (Jaradat et al., 2022c; Abuselidze & Mamaladze, 2020). However, with well thought out and well-coordinated measures, such economic impact could be reduced (Jaradat et al., 2022c). Resetting growth for better rebuilding could also increase sustainability (Kharas & Dooley, 2020). A fragile global supply chain and the shaky pandemic recovery have a substantial impact on SMEs. 90% of enterprises worldwide were SMEs, which contributed to the growth of the global economy and the creation of jobs (OECD, 2019). In actuality, SMEs provide half of all jobs worldwide. With the participation of informal SMEs, the GDP of emerging countries has been generated by formal SMEs to the tune of roughly 40%. According to World Bank estimates, the expanding

global workforce would need over 600 million jobs by 2030. (OECD, 2019). SME development has elevated to a top priority in many nations because to these factors.

Furthermore, without adequate training and the use of new technological systems like cloud accounting information systems, it may be impossible for SMEs to attain economic resilience. In order to deal with these limitations, SMEs could look for ways to attain economic sustainability. Studies on SME sustainability tended to concentrate on SME operations in developed nations, and as a result, there is a dearth of such studies in emerging nations, indicating a large gap in the literature. As a result, a conceptual model illustrating the impact of cloud AIS adoption and user training on the sustainability of SMEs in developing countries was provided in the current study with the aim of improving understanding of the difficulties SMEs sustainability during the crisis. The results of this study could be useful to regulators in formulating rules pertaining to SMEs, as well as SMEs in building their resistance to these crises.

## **2. Literature review and hypotheses development**

### **2.1 Enterprise economic sustainability**

In business, sustainability refers to meeting the demands of both direct and indirect current stakeholders, such as the communities, shareholders, and employees, while maintaining the ability to meet the needs of potential stakeholders (Bocken et al., 2014). Sustainability is both a strategy and a way of thinking about how society, the environment, and industrial or economic development are all crucially interconnected (Surya et al., 2021; Hutchins & Sutherland, 2008). The economic, the social, and the environmental elements are the three components of sustainability in the business world (Ahmad et al., 2020; Choi & Ng, 2011; de Leaniz & del Bosque, 2013; Secundo et al., 2020; Sheth et al., 2011).

The capacity of the organization to create value and enhance its financial performance is a factor in the economic dimension of sustainability (De Leaniz & Del Bosque, 2013). Governments have expressed alarm about how the global economic and financial crisis is escalating. According to Choi and Ng (2011), the organization's worries about the economy's viability are linked to worries about job losses and the financial risks associated with government and commercial initiatives and projects. Cost savings and the financial interests of outside parties have drawn the attention of scholars studying economic sustainability, especially when it comes to issues with the standard of living and the cost of living (Sheth et al., 2011).

According to De Leaniz and Del Bosque's (2013) research, firms that disclose their revenues to their stakeholders are more likely to achieve long-term success and exhibit higher economic performance, which promotes economic sustainability. The actions and inactions of this category of businesses, including those connected to their sustainability, are very important as SMEs make up the majority of global company and must address their sustainability challenges (Ahmad et al., 2020; Ha & Lo, 2018; Jaradat et al., 2022c; Najib et al., 2021).

## 2.2 Training

Training is defined as any organizational learning activities that aim to increase individual performance through the acquisition of new information, skills, and behaviors (Dekoulou & Trivellas, 2017). According to Koch and McGrath (1996), training is a process that orients workers such that they have the skills and knowledge foundation that rivals find difficult to match.

Training provides improvement in an employee's everyday performance through the provision of all the necessary skills pertinent to a job or by preparing the employees for promotion (Koch & McGrath, 1996). The relationship between training activities and a continuous learning culture was discussed by Martocchio and Baldwin in 1997. This association encourages managers and staff to manage change and use it as a constructive force. According to Kulkarni (2013), educating the workforce to accommodate growth allows workers to advance their abilities within an organization to raise the market worth of that organization. However, Gill and Biger (2012) emphasized that failing to train employees could limit a firm's ability to thrive. Furthermore, Abbott (1993) pointed out that inadequate levels of training were linked to poor economic performance.

Training programs and financial performance are related; Bartel's study found this association to be true (1994). Additionally, Bai et al. (2017) hypothesized that training had a favorable effect on organizational performance. The impact of training on both productivity and profitability was addressed by d'Arcimoles (1997).

The SME literature demonstrates that numerous researchers have examined how training affects SME performance (e.g., Zheng et al., 2009; Bai et al., 2017). These researchers found that training helps SMEs grow while enhancing efficiency, profitability, and competitive advantage. Employee training has been shown to boost innovation performance, according to recent studies by Whittaker et al. (2016) and Caloghirou et al. (2018).

The idea that training accessibility is essential for ensuring smaller businesses' growth, survival, or performance has a lot of support (Padachi & Lukea Bhiwajee, 2016). Although there is a high correlation between training and the performance of small enterprises, Patton et al. (2000) cited conflicting evidence to support their claim. Nevertheless, among small business owners, training is increasingly acknowledged as a powerful tool for a company's survival and development (Zheng et al., 2009). Consequently, the following hypotheses were put forth:

**H1:** Training positively affects Cloud AIS

**H2:** Training positively affects enterprise economic sustainability

## 2.3 Intention to use cloud AIS

A component of an organization's information system, the accounting information system (AIS) includes a specialized subsystem that collects, analyzes, and communicates data related to the financial elements of business events. AIS is typically integrated and similar to the rest of the information system. AIS can aid in the management and control of the organization's economic and financial area when combined with information technology (IT) solutions.

Additionally, Kwarteng and Aveh (2018) pointed out that the exceptional technical advancement has opened up opportunities for the strategic establishment and use of accounting information.

Global data growth is accelerating exponentially. Big data, on the other hand, is a modern term that denotes any enormous volume of structured, semi-structured, and unstructured data that may be mined for important information. Big data is defined by Yaqoob et al. (2016) as data that can be processed more quickly than traditional databases. Due to their vastness, large data cannot be processed by a single system. Relevantly, the field of big data analytics is developing as it analyzes enormous amounts of data to find hidden patterns, correlations, and other insights. Large data technology is now a reality thanks to the most recent advancements in computer technology, algorithms, and big data management techniques (Balachandran & Prasad, 2017).

While this is going on, cloud computing may be used to easily access AIS applications, and cloud applications can be accessed from a variety of web browsers and devices. The platform for AIS tools is made more accessible through the use of cloud computing, which gives organizations more ease of use without the need for additional hardware infrastructure and support for the enormous data volumes and processing capacity. Cloud AIS features a framework that provides on-demand access to software and hardware resources with no administration effort needed (Al Shbail et al., 2022a). SaaS, a type of web browser, can be used to access cloud AIS. Additionally, through the insights and outputs produced by AIS, cloud computing transforms the economic value of business intelligence, enabling small businesses to compete in the market (Ahmed et al., 2020). In addition, there are a large number of established and emerging AIS suppliers offering a wide range of AIS features based on diverse architectures, frameworks, and platforms.

Along with the benefits of cloud computing applications, the drawbacks of their use have also been emphasized. Data security and privacy, inconsistent service achievability, limited compatibility with the current apps and systems, and an inadequate regulatory framework were highlighted as the problems with cloud computing applications in Bhoir and Principal's (2014) study. Currently, internet-delivered cloud computing services are quickly replacing internally housed computing systems (Gupta et al., 2013). The cloud computing approach can effectively meet the computing needs of enterprises. However, the geographical location and operating environment of an organization have an impact on the delivery and implementation of cloud computing. Additionally, the levels of cloud computing adoption are impacted by the variations in social and economic aspects (Tashkandi & Al-Jabri, 2015). Organizations use cloud AIS to address a wide range of operational and logistical problems. In order to ensure the success of Cloud AIS adoption and integration, it is crucial to comprehend the elements affecting its acceptance before creating a clear plan for addressing the difficulties and practical problems. Consequently, the following hypothesis was made:

**H3:** Cloud AIS positively affects enterprise economic sustainability

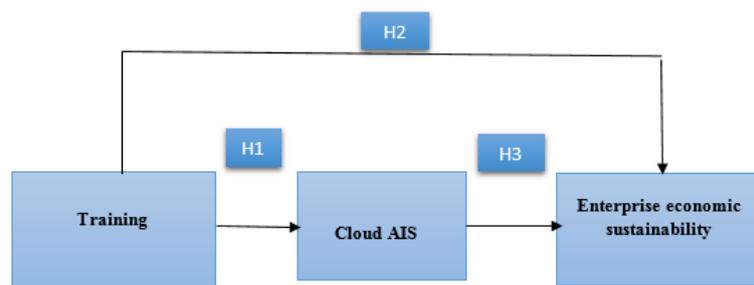
### 3. Research model

#### 3.1 Resource based-view theory (RBV) and enterprise economic sustainability

In this study, a model outlining the key elements influencing SMEs' economic sustainability was put forth. Review of earlier research revealed a paucity of studies studying the sustainability of SMEs, particularly those in developing nations. The current study thus made an effort to fill this gap by examining the subject in developing nations, specifically Jordan.

Resource Based-View Theory (RBV) and SMEs' sustainable strategies could be used by enterprises to help them make decisions, develop capabilities, obtain competitive advantages, and improve performance (Aidara et al., 2021; Alkahtani et al., 2020; Azmi et al., 2020). Particularly, the Resource Based-View (RBV) Theory, distinctive organizational tactics and resources, as well as some internal characteristics, could improve the performance and sustainability of the organization (Aidara et al., 2021; Warnier et al., 2013). To reach their full economic potential, businesses must develop and use a variety of priceless and distinctive resources (Enders et al., 2009; Warnier et al., 2013).

Through insights and outcomes produced by AIS, cloud computing transforms the economic value of business information, enabling small businesses to compete in the market (Ahmed et al., 2020). On the other side, research on SME performance and training has been extensively studied, according to the SME literature (Bai et al., 2017). The idea that training accessibility is essential for ensuring smaller businesses' growth, survival, or performance has a lot of support (Padachi & Lukea Bhiwajee, 2016). Additionally, training is becoming more widely acknowledged among small business owners as a powerful tool for a company's survival and development (Zheng et al., 2009). RBV model was employed in this study to illustrate the impact of training and adoption of new technological systems, such as cloud accounting information systems, on the sustainability of SMEs due to its suitability.



**Figure 1: Proposed model**

### 4. Methodology

#### 4.1 Design

The hypothesised correlations among the proposed constructs have been empirically examined using a survey-based research design technique. For the empirical investigation of the hypothesized correlations, the study employed a two-step methodology. A preliminary analysis

was conducted in the first step of data analysis to evaluate the construct validity and scale reliability for each construct employed in the model. Finally, the hypothesised associations were tested using the partial least squares (PLS) modeling approach.

#### **4.2 Sample design and data collection**

The sample is made up of 147 industrial SMEs located in Amman, Jordan, that employ between 10 and 200 people. Microbusinesses have been omitted as a result since it is difficult to find reliable information on the subject under study. Most empirical research on economic sustainability leave out smaller businesses (Jaradat et al., 2022b). The fundamentals of stratified sampling served as the foundation for the sample's overall design. The many branches of activity and size were taken into consideration for this. The Ministry of Industry, Trade, and Supply provided the data for the sample. A random non-probability quota sample was chosen. Additionally, the sample size was chosen to have a 95% confidence level and a margin of error for the estimation of the proportion of less than 0.05 points. A questionnaire was created with structured questions addressed to the SME management in order to gather the data. The manager is most suited to respond to inquiries about the company because they have a broader perspective on the operations of the business (Jaradat et al., 2022b). Five managers were used in a pilot test to determine the reliability of the questionnaire before it was used, and the required corrections were made. 18 of the 147 companies declined to reply on the grounds of "company policy." A response rate of 76% was obtained from the remaining questionnaires, of which 129 were returned and 112 were usable.

#### **4.3 Study instrument**

The survey tool was created in order to verify the hypotheses. 13 survey items were created to assess the three constructs covered by the questionnaire. To increase the practicality of the research, questions from earlier studies (e.g., Al Shbail et al., 2022a, b; Jaradat et al., 2022a; Rajan & Baral, 2015) were revised and updated before being added to the questionnaire.

#### **4.4 Common method bias**

The study used Harman's single factor test to check for common method bias before beginning any analysis. The outcome showed that the single factor solution only explained 27.33 percent of the total variance, which is less than the 50% cut-off (Aburumman et al., 2023; Al Shbail et al., 2023a, b; Podsakoff et al., 2003). The outcome so confirmed that there was no common method bias in the data.

### **5. Data analysis**

The data were analysed using partial least squares structural equation modeling. Partial least square (PLS) offers clear and long-lasting equations when the independent variables are used to assess the quantity of experimental observations (Hair et al., 2019). We utilized PLS because it predicts more accurately and consistently when independent variables are correlated as opposed to orthogonal (Aburumman et al., 2023; Al Shbail et al., 2022). We were able to investigate the connection between training, cloud AIS, and enterprise economic sustainability

thanks to the PLS. SPSS version 25 and SmartPLS 3.2.8 were used. A measurement model is first created, and then a structural model is created in two steps (Hair et al., 2017; Jaradat et al., 2022a, b).

### 5.1 Assessment of measurement model

First, the outer model was examined, and the outcomes are depicted in Table 1 and Figure 2. Internal consistency reliability is supported by the fact that all composite reliability values were higher than the recommended value of 0.70 (Hair et al., 2017). The fact that the factor loadings exceeded the threshold of 0.50 demonstrated indicator dependability. Convergent validity was attained by the average variance extracted (AVE) values being greater than 0.5. According to Fornell and Larcker (1981), discriminant validity was guaranteed because each construct in the measuring model had a root square of AVE value greater than the correlation between all other pertinent constructs (see Table 2).

**Table 1: Construct reliability and validity**

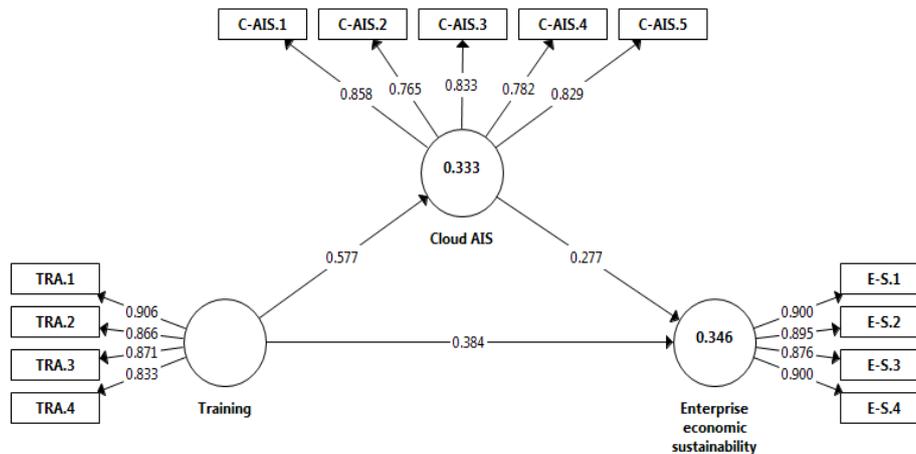
Construct	Code	Loadings	CA	CR	AVE	VIF
Training	TRA.1	0.906	0.878	0.906	0.744	2.215
	TRA.2	0.866				2.508
	TRA.3	0.871				2.401
	TRA.4	0.833				2.057
Cloud AIS	C-AIS.1	0.858	0.822	0.897	0.658	2.296
	C-AIS.2	0.765				1.754
	C-AIS.3	0.833				2.138
	C-AIS.4	0.782				1.859
	C-AIS.5	0.829				2.054
Enterprise economic sustainability	E-S.1	0.900	0.912	0.936	0.791	2.041
	E-S.2	0.895				2.003
	E-S.3	0.876				2.514
	E-S.4	0.900				2.998

**Table 2: Discriminant validity test (Fornell-Larcker criterion)**

Construct	1	2	3
Cloud AIS	0.814		
Enterprise economic sustainability	0.498	0.893	
Training	0.577	0.544	0.869

**Table 3: Discriminant validity test (HTMT criterion)**

Construct	1	2	3
Cloud AIS			
Enterprise economic sustainability	0.555		
Training	0.647	0.602	



**Figure 2: Path Coefficients, loadings and R<sup>2</sup> values**

### 5.2 Assessment of structural model

The structural model evaluations were carried out in accordance with Hair et al (2019). The greatest VIF was discovered in 2.998 when VIF was first analysed (see Table 1). (Hair et al., 2017). The structural model demonstrates the causal relationships between endogenous and external constructs (Eldalabeeh et al., 2021; Hair et al., 2017; Shbail & Shbail, 2020). Explanatory strength (R<sup>2</sup>), predictive relevance (Q<sup>2</sup>), and path coefficient (β-values) were all evaluated. The study then used the bootstrapping approach on 5,000 subsamples to determine the importance of path coefficients (Hair et al., 2019). H1 and H2 are supported by training's favourable effects on cloud AIS and enterprise economic sustainability (β = 0.577, 0.384, ρ < 0.001; respectively). Cloud AIS supports H3 by having a beneficial impact on the enterprise's economic sustainability (β = 0.277, ρ < 0.001).

The contribution of exogenous constructs to endogenous constructs was measured by R<sup>2</sup>. All R<sup>2</sup>-values should therefore range from 0 to 1, with a higher value suggesting a greater contribution from endogenous components (Hair et al., 2019). This study found that exogenous components contributed significantly to endogenous constructs, explaining 33.3% of the variance in cloud AIS and 34.6% of the variance in enterprise economic sustainability (Hair et al., 2017). The outcomes of the blindfolded procedures for the Q<sup>2</sup> values (cloud AIS and enterprise economic sustainability) are displayed in Table 4. The model has strong predictive relevance for endogenous constructs because all Q<sup>2</sup> values are greater than zero (Hair et al., 2017). The standardized root means square residual (SRMR) value for the suggested research model was 0.053 (both estimated and saturated models), which was below the cutoff of 0.08 and demonstrated its overall suitability (Alserhan, 2020; Shabil, 2018; Taha et al., 2023).

**Table 4: Summary results of hypothesized model testing**

Structural path	$\beta$ and t-values	Confidence Interval (Percentile Bootstrap)	Conclusion	R <sup>2</sup>	Q <sup>2</sup>
H1: Training -> Cloud AIS	0.577 (8.959)*	[0.460, 0.700]	Supported		
H2: Training -> Enterprise economic sustainability	0.384 (3.896)*	[0.182, 0.563]	Supported		
H3: Cloud AIS -> Enterprise economic sustainability	0.277 (2.858)*	[0.090, 0.467]	Supported	0.333, 0.346	0.201, 0.251

## 6. Discussion and conclusion

There is a gap in the literature because the sustainability of SMEs has not been thoroughly studied at a time when the global economy is experiencing significant challenges. Consequently, there is a void in the literature. In this quantitative study, which included SMEs in developing nations, a model exhibiting the benefits of training and adoption of cloud accounting information systems on enterprise economic sustainability was put out. In this study, the RBV theory was used to explore the variables that might have an impact on SMEs' ability to sustain their economic growth. The instrument utilized to collect the data, which were then subjected to PLS-SEM analysis, was a questionnaire survey.

The findings were in line with the earlier study by Al-Okaily et al. and shown a strong favourable impact of training and Cloud AIS adoption on enterprise economic sustainability (2022). The findings also indicated that training had a considerable positive impact on the adoption of cloud-based AIS. In fact, training has been demonstrated to help SMEs perform better and become more sustainable (Zheng et al., 2009). The results of this study have a number of consequences. First off, the findings contribute to our understanding of the difficulties SMEs face in achieving and maintaining sustainability. Therefore, SMEs will find the study's findings helpful in coming up with survival strategies as the global economy faces difficulties. The study's conclusions are useful to regulators as well, particularly in assisting them in developing SME-related policies for surviving. In order to strengthen the sustainability of SMEs, actions should be put in place that take the factors under consideration into account.

There were a number of restrictions that need to be discussed. The first limitation relates to the factors examined in this study in terms of their potential impact on the economic sustainability of SMEs. The factors included in this study were too few in number, while other factors, such as the adoption of business intelligence and IT infrastructure, could also have an impact on the economic sustainability of SMEs. Another drawback of the quantitative technique was the potential incompleteness of the outcomes. Future research should take a qualitative approach into consideration in order to strengthen the thoroughness of the findings through the use of in-depth interviews with respondents and individuals involved in organizational decision-making, particularly SMEs. The findings cannot be generalized to other developing nations with varied economic conditions, such as the Gulf countries, because only Jordan was used as the analysed developing country. The identical study should be conducted in these other developing nations to improve generalizability.

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