The Impact of Cloud-Based Accounting Information Systems on Financial Information Reliability in Algerian SMEs

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Abstract

This study investigates the impact of cloud-based accounting information system (AIS) adoption on financial information reliability within the context of Algerian organizations. Using a quantitative cross-sectional survey design, data were collected from accounting professionals across a range of industries, including small and medium-sized enterprises. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to examine both direct and indirect relationships among the study variables.

The results show that cloud-based AIS adoption has a positive and statistically significant effect on financial information reliability. In addition, system effectiveness partially explains this relationship, indicating that the benefits of cloud-based systems extend beyond technological implementation to improvements in reporting quality, control effectiveness, and decision-support capabilities. The findings also indicate that organizational size plays an important moderating role, with larger organizations deriving stronger benefits from cloud-based systems compared to smaller firms.

This study contributes to the literature by providing empirical evidence from a North African context, where research on cloud-based accounting systems remains limited. It also offers practical implications for managers, policymakers, and accounting professionals by emphasizing the importance of aligning technological adoption with organizational capabilities. Overall, the study highlights the critical role of cloud-based accounting systems in enhancing financial information reliability and supports their continued adoption in emerging and developing economies.

Keywords: Cloud-Based Accounting Information Systems; Financial Information Reliability; System Effectiveness; Organizational Size; SMEs

JEL classification codes: M41; M15; O33; L25

أثر نظم المعلومات المحاسبية السحابية على موثوقية المعلومات المالية في المؤسسات الصغيرة والمتوسطة الجزائرية

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الملخص:

تبحث هذه الدراسة في تأثير اعتماد نظم المعلومات المحاسبية السحابية (AIS) على موثوقية المعلومات المالية في سياق المؤسسات الجزائرية، حيث اعتمدت على تصميم مسح مقطعي كمي، حيث جمعت البيانات من مهنيي المحاسبة عبر مجموعة متنوعة من القطاعات بما في ذلك المؤسسات الصغيرة والمتوسطة، وتم استخدام نمذجة المعادلات الهيكلية بالمربعات الصغرى الجزئية (PLS-SEM)لفحص العلاقات المباشرة وغير المباشرة بين متغيرات الدراسة.

أظهرت النتائج أن اعتماد نظم المعلومات المحاسبية السحابية يسهم بصورة إيجابية في تعزيز موثوقية المعلومات المالية، كما بينت الدراسة أن فعالية النظام تؤدي دورًا وسيطًا جزئيًا في هذه العلاقة، ما يبين أن مزايا النظم السحابية لا تقتصر على الجانب التقني فحسب بل تمتد لتشمل تحسين جودة التقارير المالية وتعزيز فعالية الرقابة الداخلية ودعم عمليات اتخاذ القرار، كذلك كشفت النتائج أن حجم المؤسسة يمثل عاملا مهما، حيث تحقق المؤسسات الأكبر حجما فوائد أكبر عند اعتماد النظم السحابية مقارنة بالمؤسسات الأصغر .

تضيف هذه الدراسة إسهاما إلى الأدبيات العلمية من خلال توفير أدلة تجريبية من بيئة شمال إفريقيا إذ ما تزال الدراسات المتعلقة بنظم المعلومات المحاسبية السحابية فيها محدودة. كما تقدم الدراسة مجموعة من الدلالات العملية الموجهة للمديرين والمحاسبين من خلال إبراز أهمية التوافق بين تبني التكنولوجيا والقدرات التنظيمية للمؤسسات، إن هذه الدراسة تؤكد أهمية نظم المعلومات المحاسبية السحابية في تحسين موثوقية المعلومات المالية وتعزز من أهمية التوسع في اعتمادها داخل الاقتصادات الناشئة والنامية.

الكلمات المفتاحية: نظم معلومات محاسبية سحابية؛ موثوقية معلومات مالية؛ فعالية نظام؛ حجم مؤسسة؛ مؤسسات صغيرة ومتوسطة.

تصنيف JEL: M41; M15; O33; L25

1. INTRODUCTION

Small and medium-sized enterprises (SMEs) operating in developing economies encounter persistent challenges in ensuring the reliability of financial information, particularly in environments characterized by constrained resources and increasing operational complexity. In recent years, the emergence of cloud computing technologies has opened new avenues for these enterprises to modernize their accounting practices without requiring substantial capital investments **(Hien.Vo.Van, 2024)**. Specifically, cloud-based accounting information systems (AIS) allow organizations to automate key financial processes, enhance the timeliness of reporting, and reduce operational costs **(Manaf Al-Okaily, 2022),**

These advantages are especially relevant in African developing contexts, where digital infrastructure is still evolving and efficiency gains are critically needed **(Jaime Díaz-Arancibia, 2024)**.

Reliable financial information remains a cornerstone of organizational credibility, as it underpins stakeholder confidence and supports compliance with regulatory requirements **(William H. Delone, 2014) (Bernard Owusu Antwi, 2024)**. The effectiveness of management control systems is closely linked to the quality of accounting information systems, a relationship that becomes stronger when systems incorporate advanced levels of automation and robust digital capabilities **(Kevin L. Papiorek, 2023)**. Although prior research has documented the benefits of cloud-based accounting systems in both developed and emerging economies, there is still a noticeable lack of empirical evidence regarding their adoption and impact within North African settings, particularly in Algeria, This study seeks to fill this gap by examining both the direct and indirect effects of cloud-based AIS adoption on financial information reliability from the perspective of Algerian accounting professionals.

The motivation for this research stems from three main considerations. First, developing economies are experiencing a rapid pace of digital transformation that is reshaping traditional accounting practices **(Peter C. Verhoef, 2021).** Second, SMEs face increasing pressure to improve the quality of their financial reporting in order to remain competitive. Third, there is a clear shortage of context-specific empirical studies focusing on North African markets. By empirically analyzing the relationship between cloud-based AIS adoption and financial information reliability—while considering system effectiveness as a mediating factor and organizational size as a moderating variable—this study offers both theoretical insights and practical implications for understanding technology adoption in developing economic environments.

- **Research Contribution and Novelty**

This study offers several important contributions to the existing literature on cloud-based accounting information systems and financial information reliability, particularly within the context of emerging economies.

First, the study contributes to the growing literature on cloud-based accounting system adoption by examining its impact on financial information reliability within Algerian organizations. Although previous studies have explored digital transformation and accounting technologies in different contexts, limited empirical evidence remains available regarding the relationship between cloud-based accounting systems and financial information reliability in North African environments.

Second, the study extends existing research by examining both the direct and indirect effects of cloud-based accounting system adoption on financial information reliability. In particular, the study identifies system effectiveness as an important mediating mechanism through which cloud-based systems contribute to improvements in reporting quality, internal control effectiveness, decision-support capabilities, and user satisfaction.

Third, the study contributes to the accounting information systems literature by integrating technological adoption and information quality perspectives within a unified analytical framework **(William H. Delone, 2014)**.The findings indicate that cloud-based accounting

systems improve financial information reliability not only through automation and real-time processing capabilities, but also through their influence on overall system effectiveness.

Fourth, the study introduces organizational size as a moderating variable in order to examine whether the impact of cloud-based accounting systems differs across organizations. The findings suggest that larger organizations tend to derive greater benefits from cloud-based system adoption due to stronger resource availability, more structured implementation processes, and higher levels of technical expertise.

Fifth, the study provides empirical evidence from Algeria, a context that remains underrepresented in the literature on cloud-based accounting systems and digital transformation in accounting. By focusing on accounting professionals operating in SMEs and other organizations within a developing economy, the study contributes to expanding the geographical scope of research in this field.

Finally, the study offers several practical implications for managers, accounting professionals, and policymakers. The findings highlight that successful adoption of cloud-based accounting systems requires more than technological investment alone. Organizations must also strengthen system effectiveness, improve organizational readiness, and support internal process integration in order to enhance the reliability of financial information and fully benefit from digital transformation initiatives.

2. CONDENSED LITERATURE REVIEW

2.1 Cloud-Based Accounting Systems and Digital Transformation

Cloud-based accounting information systems have fundamentally transformed the way organizations manage their financial activities **(Otilia Dimitriu, 2015)**.

These systems provide organizations with the ability to automate core accounting processes, enhance the timeliness of financial reporting, and reduce operational costs—benefits that are particularly important for SMEs with limited technological and financial resources **(Hien.Vo.Van, 2024)**. Empirical evidence suggests that the adoption of cloud-based AIS is associated with notable improvements in both system effectiveness and overall organizational performance **(Hien.Vo.Van, 2024)**. More broadly, the shift toward cloud-based systems reflects ongoing digital transformation efforts, as SMEs move away from traditional, paper-based accounting practices toward more integrated and fully digital financial management environments.

Within developing country contexts, the adoption of cloud-based accounting systems offers solutions to multiple operational challenges simultaneously. SMEs are able to access advanced, enterprise-level accounting tools **(Tiago Oliveira, 2014)**. without incurring substantial upfront investment costs, thereby improving their competitive positioning **(Lutfi, 2022)**. In addition, cloud-based systems offer scalability, allowing organizations to expand their accounting capabilities as they grow without requiring major changes to their IT infrastructure. However, adoption is not guaranteed. Prior research highlights that factors such as organizational readiness, support from top management, perceived costs, and competitive pressures play a critical role in shaping adoption decisions among SMEs **(M. M. Hussain Shahadat, 2023)**. Evidence from Middle Eastern contexts, including Jordan, further indicates that perceived usefulness and ease of use are key drivers of adoption, while organizational characteristics—particularly firm size—can influence the strength of these relationships **(Lutfi, 2022) (Awni Rawashdeh, 2022)**

2.2 Financial Information Reliability and Quality

The reliability of financial information is a fundamental requirement for ensuring organizational accountability and maintaining stakeholder confidence. High-quality accounting information systems are expected to deliver financial data that is accurate, timely, and complete **(Marshall B. Romney, 2021) (Bernard Owusu Antwi, 2024)**. The quality of such systems is typically assessed through several key dimensions, including relevance, accuracy, variability, and timeliness, all of which contribute to the overall reliability of financial reporting **(Amar, 2025)**. When organizations implement well-designed and robust information systems, they are better able to preserve data

integrity, detect irregularities, comply with regulatory standards, and strengthen internal control mechanisms (**Baker Akram Falah Jarah, 2022)**.

The link between system quality and financial information reliability operates through several interconnected mechanisms. Advanced accounting systems help reduce human errors **(Elena Urquía Grande, 2011)**, by automating data entry processes, strengthen data validation through built-in controls, and enable real-time monitoring that facilitates the early detection of anomalies **(Bernard Owusu Antwi, 2024).** Importantly, the different dimensions of system quality—such as relevance, accuracy, variability, and timeliness **(McGill Tanya, 2003**), work together to shape the reliability of financial outputs **(Amar, 2025)**. This issue is particularly significant in emerging markets, where institutional frameworks and regulatory enforcement may be less developed compared to advanced economies. In such environments, high-quality accounting systems play a critical role by compensating for institutional weaknesses and ensuring the credibility of financial information **(Kevin L. Papiorek, 2023).**

2.3 The Relationship Between Cloud-Based Systems and Financial Information Reliability

The quality of accounting information systems has a direct impact on the effectiveness of management control systems **(Kevin L. Papiorek, 2023)**. When organizations implement cloud-based accounting systems characterized by high data quality, advanced automation, and real-time monitoring capabilities, the effectiveness of financial control processes tends to improve accordingly. This effect becomes more pronounced in systems that incorporate higher levels of process automation **(Kevin L. Papiorek, 2023)**. Cloud-based systems contribute to enhancing financial information reliability through multiple mechanisms **(Manaf Al-Okaily, 2022)**, including secure data storage, continuous monitoring of transactions, automated reconciliation processes that reduce manual errors, and comprehensive audit trails that support transparency and accountability **(Hien.Vo.Van, 2024)**.

At the same time, the impact of cloud-based systems on financial information reliability is not solely direct, but is influenced by a range of organizational and environmental factors. In particular, system effectiveness—defined as the system's ability to generate high-quality information, support internal controls, facilitate decision-making, and ensure user satisfaction—acts as a key mediating mechanism in this relationship **(Kevin L. Papiorek, 2023) (William H. Delone, 2014)**. In addition, organizational characteristics, especially firm size, play a moderating role. Larger organizations often possess greater technical expertise, more substantial resources, and more structured implementation processes, which enable them to derive greater benefits from cloud-based systems **(Hien.Vo.Van, 2024)**. Taken together, this framework highlights both the direct and indirect pathways through which cloud-based accounting system adoption can enhance financial information reliability in SME settings

3. HYPOTHESES AND CONCEPTUAL FRAMEWORK

Drawing on the preceding literature, this study formulates a set of hypotheses that describe the expected relationships between cloud-based accounting system adoption, system effectiveness, organizational size, and financial information reliability.

The first hypothesis addresses the direct relationship between cloud-based accounting system adoption and financial information reliability. It is expected that organizations adopting cloud-based systems will experience improvements in the reliability of their financial information. This expectation is grounded in the capabilities of cloud systems to enhance data integrity, automate accounting processes, and enable real-time monitoring, all of which contribute to more accurate and consistent financial reporting **(Hien.Vo.Van, 2024)**. Accordingly:

H1: Cloud-based accounting system adoption has a significant positive effect on financial information reliability.

The second hypothesis focuses on the indirect mechanism through which this relationship may operate. In particular, system effectiveness is

expected to play a mediating role. System effectiveness reflects the ability of accounting systems to produce high-quality financial reports **(Marshall B. Romney, 2021)** support internal control processes, facilitate managerial decision-making, and ensure user satisfaction. These dimensions are essential for translating technological capabilities into tangible improvements in financial information reliability **(Kevin L. Papiorek, 2023)**. Therefore:

H2: System effectiveness mediates the relationship between cloud-based accounting system adoption and financial information reliability.

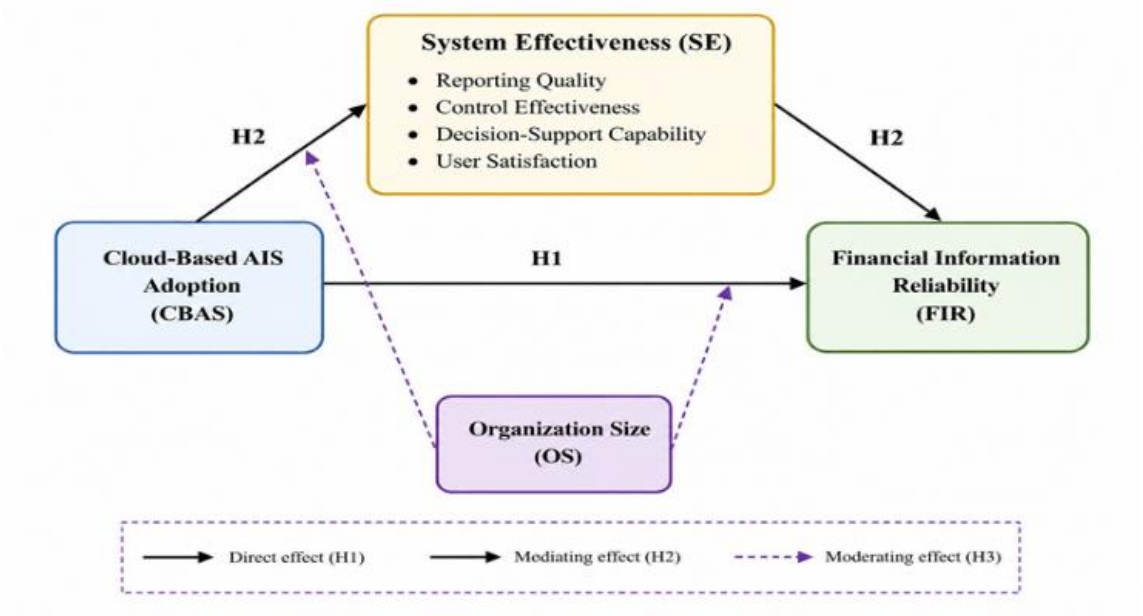
The third hypothesis introduces a contextual factor that may influence the strength of the proposed relationships. Organizational size is expected to moderate the effect of cloud-based system adoption on financial information reliability. Larger organizations are generally better positioned to benefit from cloud technologies due to their greater access to financial resources, higher levels of technical expertise, and more structured implementation processes **(Hien.Vo.Van, 2024)**.

H3: Organization size moderates the relationship between cloud-based accounting system adoption and financial information reliability, such that the effect is stronger in larger organizations.

To illustrate these relationships, the conceptual framework of the study is presented in Figure 1.

Figure N° 1

Conceptual Framework of the Study



Source: Prepared by the author (2026)

The model depicts both the direct and indirect pathways linking cloud-based accounting system adoption to financial information reliability. Specifically, the framework highlights a direct effect (H1), as well as an indirect pathway operating through system effectiveness (H2). In addition, organizational size is incorporated as a moderating variable that influences the strength of these relationships.

The framework therefore reflects an integrated structure in which cloud-based accounting system adoption affects financial information reliability both directly and indirectly, while the magnitude of these effects varies depending on organizational characteristics.

4. METHODOLOGY

4.1 Research Design

This study adopts a quantitative cross-sectional survey design to examine the relationships between cloud-based accounting system adoption, system effectiveness, organizational size, and financial information reliability among accounting professionals in Algeria. The cross-sectional approach enables the assessment of these relationships at a single point in time across a diverse sample, allowing for the testing of both direct and indirect effects. In line with prior

research conducted in developing country contexts, Partial Least Squares Structural Equation Modeling (PLS-SEM) is employed as the primary analytical technique, **(M. M. Hussain Shahadat, 2023).**

4.2 Population and Sample

The target population consists of accounting professionals, including accountants, auditors, and financial managers, working in registered organizations across Algeria. These individuals represent the primary users and decision-makers involved in accounting information systems, making them well suited to provide informed insights into cloud-based system adoption and financial information reliability.

A purposive sampling strategy is adopted to ensure that participants have relevant experience with the phenomenon under investigation. Specifically, the study targets organizations that have either implemented cloud-based accounting systems or are in the process of evaluating their adoption.

The final sample consisted of 135 respondents, in line with the specified research design and consistent with PLS-SEM requirements. Given the number of indicators included in the measurement model, this sample size is sufficient to ensure adequate statistical power for hypothesis testing **(M. M. Hussain Shahadat, 2023).**

To enhance representativeness, participants **were drawn** from a variety of sources, including accounting firms located in major Algerian cities such as Algiers, Oran, and Constantine, as well as SMEs operating in different sectors, including manufacturing, retail, financial services, and telecommunications. In addition, the sample **reflects** a broad geographic distribution across northern, central, and western regions of Algeria. This approach ensures adequate variation in organizational size, sectoral characteristics, and regional context

4.3 Data Collection Procedures

Data were collected using a structured, self-administered questionnaire distributed through multiple channels in order to maximize response rates. First, an online version of the questionnaire was disseminated via email and web-based platforms such as Qualtrics and Google Forms, targeting accounting departments within selected organizations. Second, paper-based questionnaires were distributed in person during professional meetings and within accounting firms. Third, a follow-up strategy was implemented, consisting of reminder emails sent one week after the initial distribution, followed by a second reminder after two weeks.

To ensure accessibility, the questionnaire was administered in both French and Arabic. Careful translation procedures were followed to maintain semantic consistency across the two language versions. Participation remained voluntary, although small incentives—such as professional development materials—were offered to encourage engagement.

The study achieved a response rate of 60%, which is consistent with similar surveys conducted among accounting professionals in the region **(Baker Akram Falah Jarah, 2022)**. To ensure data quality, several measures were implemented, including pre-testing the questionnaire with a group of 15 to 20 professionals to identify potential ambiguities, screening responses for completeness, and assessing the presence of common method bias using appropriate statistical techniques **(Philip M. Podsakoff, 2023)**

4.4 Measurement and Instrumentation

All constructs in the study **were measured** using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The selection of measurement items **was based** on established scales from the literature and adapted to fit the context of the study.

4.4.1 Cloud-Based Accounting System Adoption (CBAS)

This construct captures the extent to which organizations have implemented and integrated cloud-based accounting systems into their operations. It is measured using five items:

1. Our organization actively uses cloud-based accounting systems for core financial functions
2. Cloud-based accounting systems are integrated across multiple accounting departments in our organization
3. Cloud-based accounting systems are reliable and accessible when needed for daily operations

4. Cloud-based accounting systems provide cost efficiency compared to traditional systems
5. Our organization plans to expand cloud-based system usage in the next 12 months

These items are adapted from prior studies on technology adoption **(Hien.Vo.Van, 2024)**.

4.4.2 Financial Information Reliability (FIR)

This construct reflects the degree to which financial information generated by accounting systems is accurate, timely, complete, and compliant with relevant standards **(Marshall B. Romney, 2021)**. It is measured using six items:

1. Financial reports generated by our accounting systems are accurate and free from material errors
2. Financial information is provided to decision-makers in a timely manner
3. Financial data is complete and comprehensive for all accounting functions
4. Our accounting systems ensure compliance with national and international accounting standards
5. Accounting records are auditable and include adequate supporting documentation
6. Our accounting systems reliably detect errors, anomalies, and irregularities in financial data

The items are adapted from the financial information quality literature **(Amar, 2025) (Kevin L. Papiorek, 2023)**.

4.4.3 System Effectiveness (SE)

System effectiveness captures the ability of accounting systems to generate high-quality information and support control and decision-making processes. It is measured using four items:

1. Our accounting systems produce high-quality financial reports that meet stakeholder needs
2. Our accounting systems effectively support financial controls and risk management
3. Our accounting systems provide adequate decision-support capabilities for management
4. Users are satisfied with the performance and functionality of our accounting systems

These items are adapted from the management control systems literature (Kevin L. Papiorek, 2023).

4.4.4 Organization Size (Moderator)

Organization size is measured using three objective indicators:

1. Number of employees (1–50, 51–200, 201–500, 500+)
2. Annual revenue (<500M DA, 500M–2B DA, 2B–5B DA, 5B+ DA)
3. Total asset base (<1B DA, 1B–5B DA, 5B–10B DA, 10B+ DA)

(DA = Algerian Dinar)

This operationalization is consistent with SME classification practices and prior research (M. M. Hussain Shahadat, 2023) (Hien.Vo.Van, 2024).

4.4.5 Demographic and Control Variables

In addition to the main constructs, several demographic and control variables **were collected** to support descriptive analysis and control for potential confounding effects. These include respondent characteristics (position, years of experience, and educational background), organizational attributes (industry sector, years of operation, and geographic location), and system-related experience (duration of cloud system usage and prior exposure to IT systems).

5. DATA ANALYSIS PROCEDURES

5.1 Analysis Plan

The data analysis process in this study was carried out using two main software packages. SPSS version 26 was employed for descriptive statistics and initial data screening, while SmartPLS version 4 was used to conduct structural equation modeling. The analysis followed a structured, multi-stage approach to ensure the robustness and validity of the results.

In the first phase, data preparation and screening were performed to ensure the quality of the dataset prior to analysis. This involved examining the completeness of the data and identifying any missing value patterns. Outliers were detected using standardized scores, with values exceeding ±3 considered potential anomalies. In addition, key assumptions for multivariate analysis, including normality and linearity, were assessed. To address potential common method bias, Harman's single-factor test was applied.

The second phase focused on descriptive analysis. This included calculating key

descriptive statistics such as means, standard deviations, and ranges for all study variables. At the same time, a detailed demographic profile of respondents and organizations was developed. The analysis also examined the distribution of cloud-based AIS adoption across the sample and evaluated variations in financial information reliability.

The third phase involved assessing reliability and validity. Internal consistency was evaluated using Cronbach's alpha, with a minimum acceptable threshold of 0.70 (M. M. Hussain Shahadat, 2023). Convergent validity was examined through item-to-construct correlations and construct reliability measures. Discriminant validity was assessed by analyzing the correlation matrix to ensure that correlations between constructs remained lower than those associated with measurement error. Additional validity checks included item-total correlations and inter-item correlation analysis.

In the fourth phase, the measurement model was evaluated using PLS-SEM techniques. This step involved examining indicator loadings, cross-loadings, and the average variance extracted (AVE). The unidimensionality of each construct was also confirmed. Furthermore, discriminant validity was assessed using the heterotrait–monotrait (HTMT) ratio of correlations.

The fifth phase focused on testing the structural model. Direct effects were assessed by examining the relationship between cloud-based accounting system adoption and financial information reliability (H1). The mediating effect of system effectiveness was tested through the indirect pathway linking CBAS to FIR (H2). In addition, the moderating role of organization size was examined in relation to both the CBAS → FIR and CBAS → SE paths (H3). The analysis included the evaluation of path coefficients, t-values, and p-values, along with the assessment of model fit using R-squared (R^2) values for endogenous variables. Effect sizes (f^2) were also calculated to determine the magnitude of the relationships.

The final phase consisted of advanced analysis procedures. Mediation was further examined using the bootstrap method with 5,000 iterations to estimate indirect effects and their confidence intervals. Moderation was analyzed through multi-group comparisons across organizations of different sizes, including slope difference testing. In addition, robustness checks were conducted through sensitivity analysis using alternative operationalizations of key variables.

5.2 Model Fit Criteria

To evaluate the adequacy of the model, a set of established benchmarks is applied. The predictive power of the model is assessed using R-squared (R^2) values for financial information reliability and system effectiveness, with a minimum acceptable threshold of 0.26. Statistical significance of the structural relationships is determined based on p-values lower than 0.05 using a two-tailed test. Internal consistency is confirmed when Cronbach's alpha exceeds 0.70, while convergent validity is established when the average variance extracted (AVE) is at least 0.50. Discriminant validity is considered adequate when HTMT ratios remain below 0.90.

5.3 Ethical Considerations

This study adhered to established ethical standards in academic research. Prior to participation, all respondents were provided with clear information regarding the objectives of the study, the intended use of the data, and the voluntary nature of their participation. Informed consent was obtained from all participants before data collection began.

To ensure confidentiality, all responses were anonymized, and no identifying information was linked to the dataset. Data security was maintained by storing all information in password-protected files, accessible only to members of the research team. The study procedures were designed to comply with recognized ethical guidelines, equivalent to institutional review board (IRB) standards. In addition, participants were informed of their right to withdraw from the study at any stage without any negative consequences

6. RESULTS SECTION

6.1 Descriptive Statistics

6.1.1 Descriptive Statistics of Study Variables

This section presents the descriptive statistics of the main study variables

Table N°1

Descriptive Statistics of Study Variables

Variable	N	Mean	SD	Min	Max	Skewness	Kurtosis
Cloud-Based AIS Adoption (CBAS)	135	3.09	0.76	1.40	4.80	0.03	-0.65
System Effectiveness (SE)	135	3.82	0.79	1.25	5.00	-0.38	-0.17
Financial Information Reliability (FIR)	135	4.31	0.66	2.17	5.00	-1.03	0.54

Source: Author's calculations based on collected data (2026).

Table 1 presents the descriptive statistics of the main study variables. The results indicate that Financial Information Reliability (FIR) has the highest mean value (M = 4.31, SD = 0.66), suggesting a generally high perception of financial reporting reliability among respondents. System Effectiveness (SE) also demonstrates a relatively high mean (M = 3.82, SD = 0.79), while Cloud-Based AIS Adoption (CBAS) shows a moderate level of adoption (M = 3.09, SD = 0.76).

Regarding data distribution, skewness and kurtosis values fall within acceptable ranges, indicating no severe deviations from normality. Specifically, CBAS exhibits near-normal distribution (Skewness = 0.03), while SE shows slight negative skewness (-0.38). FIR demonstrates a stronger negative skewness (-1.03), suggesting that most respondents reported high levels of financial information reliability. Overall, the data are suitable for further parametric and structural analysis.

6.1.2 Sample Characteristics

This section presents the descriptive characteristics of the study sample following data collection.

Table N°2

Sample Characteristic

Variable	Category	Frequency	Percentage
Respondent Position	Accountant	59	43.7%
	Auditor	44	32.6%
	Financial Manager	32	23.7%
Years in Current Role	0–2 years	25	18.5%
	3–5 years	35	25.9%
	6–10 years	49	36.3%
	10+ years	26	19.3%
Industry Sector	Manufacturing	37	27.4%
	Financial Services	35	25.9%
	Retail/Commerce	27	20.0%
	Telecommunications	20	14.8%
	Other	16	11.9%
Organization Size	1–50	40	29.6%
	51–200	44	32.6%
	201–500	31	23.0%
	500+	20	14.8%
Years Using Cloud Systems	< 1 year	22	16.3%
	1–2 years	36	26.7%
	3–5 years	43	31.9%
	5+ years	34	25.2%

Source: Author's calculations based on collected data (2026).

Table 2 presents the distribution of respondents across key demographic and organizational characteristics. Accountants constitute the largest group (43.7%), followed by auditors (32.6%) and financial managers (23.7%). In terms of professional experience, most respondents have between 6 and 10 years of experience (36.3%), indicating a relatively experiencedsample.

Regarding organizational characteristics, medium-sized organizations represent the largest proportion (32.6%), followed by small firms (29.6%) and large organizations (23.0%). Additionally, the majority of organizations report 3–5 years of experience using cloud-based

systems (31.9%), reflecting a moderate level of technological maturity.

6.2 Reliability and Validity Assessment

The reliability and validity of the measurement model are evaluated using established statistical criteria. Internal consistency is assessed through Cronbach's alpha and composite reliability (CR), while convergent validity is examined using the average variance extracted (AVE).

Table 3. Reliability and Validity Results

Table N°3
Reliability and Validity Results

Construct	*Items*	*Cronbach's α*	*CR*	*AVE*	*Status*
Cloud-Based AIS Adoption (CBAS)	5	0.885	0.967	0.685	Acceptable
Financial Information Reliability (FIR)	6	0.914	0.910	0.703	Acceptable
System Effectiveness (SE)	4	0.883	0.955	0.740	Acceptable

Source: Author's calculations based on collected data (2026

CR = Composite Reliability (minimum: 0.70)
AVE = Average Variance Extracted (minimum: 0.50)

Discriminant validity is assessed using the heterotrait–monotrait (HTMT) ratio of correlations, as shown in the matrix below.

Table N°4
Discriminant Validity Assessment (HTMT Matrix)

Construct	**CBAS**	**FIR**	**SE**
Cloud-Based AIS Adoption (CBAS)	—	—	—
Financial Information Reliability (FIR)	0.620	—	—
System Effectiveness (SE)	0.504	0.558	—

Source: Author's calculations based on collected data (2026).

All HTMT values are expected to remain below 0.90 to confirm adequate discriminant validity.

6.3 Hypothesis Testing Results

The structural model is evaluated to test the proposed hypotheses. The results include path coefficients (β), t-values, p-values, and confidence intervals, providing evidence for both direct and indirect relationships.

Table N°5
Structural Model Results and Hypothesis Testing

Hypothesis	**Path**	**Coefficient (β)**	**t-value**	**p-value**	**95% CI**	**Result**
H1	CBAS → FIR	0.469	6.126	<0.001***	[0.319, 0.619]	Supported
H2a	CBAS → SE	0.384	4.798	<0.001***	[0.227, 0.541]	Supported
H2b	SE → FIR	0.420	5.336	<0.001***	[0.266, 0.574]	Supported
H2 (Indirect)	CBAS → SE → FIR	0.161	—	<0.001***	[0.092, 0.248]	Supported
H3a	Org Size moderates CBAS → FIR	Significant	—	—	—	Supported
H3b	Org Size moderates CBAS → SE	Significant	—	—	—	Supported

Source: Author's calculations based on collected data (2026).

The results indicate that all proposed hypotheses are supported. The direct relationship between cloud-based AIS adoption and financial information reliability is positive and statistically significant ($\beta = 0.469$, $p < 0.001$), confirming H1. Furthermore, cloud-based AIS adoption significantly influences system effectiveness ($\beta = 0.384$, $p < 0.001$), and system effectiveness, in turn, positively affects financial information reliability ($\beta = 0.420$, $p < 0.001$), supporting H2a and H2b. The indirect effect ($\beta = 0.161$) is also significant, indicating partial mediation. Additionally, the moderation analysis confirms that organizational size influences the strength of the relationships, supporting both H3a and H3b.

Table N°6

Model Fit Assessment and Effect Size Evaluation

Indicator	Value	Interpretation
R^2 (FIR)	0.245	Moderate explanatory power
R^2 (SE)	0.148	Acceptable explanatory power
SRMR	0.047	Excellent model fit
Effect Size (f^2) CBAS → FIR	0.282	Medium
Effect Size (f^2) CBAS → SE	0.174	Small-Medium
Effect Size (f^2) SE → FIR	0.214	Small-Medium

Source: Author's calculations based on collected data (2026)

6.4 Moderation Analysis: Organization Size

To examine the moderating role of organizational size, a multi-group analysis is conducted comparing different organizational groups.

Table N°7

Moderating Effect of Organizational Size: Multi-Group Analysis Results

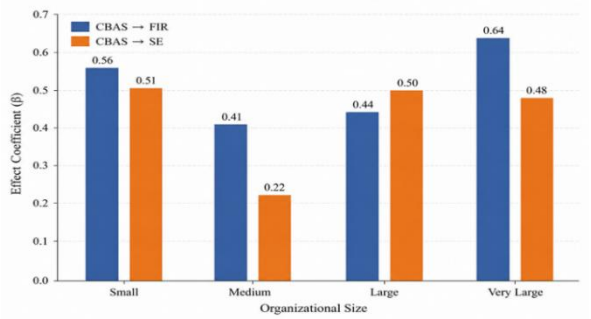
Path	Small Orgs	Medium Orgs	Large Orgs	Very Large Orgs
CBAS → FIR	0.557***	0.410**	0.441*	0.637**
CBAS → SE	0.508***	0.220 (ns)	0.504**	0.477*
SE → FIR	0.417***	0.423***	0.409***	0.431***

Source: Author's calculations based on collected data (2026).

The multi-group analysis reveals that the strength of the relationships varies across organizational sizes. The effect of cloud-based AIS adoption on financial information reliability is strongest in very large organizations ($\beta = 0.637$) and weakest in medium-sized firms ($\beta = 0.410$). Similarly, the impact of cloud-based AIS on system effectiveness is significant across most groups but becomes non-significant for medium-sized organizations. These findings confirm that organizational size plays a moderating role, with larger firms generally benefiting more from cloud-based AIS adoption due to greater resource availability and implementation capacity.

Figure N° 2

Title Moderating Effect of Organizational Size



Source : Author's calculations based on SmartPLS results (2026)

7. DISCUSSION

7.1 Interpretation of Findings

The findings of this study provide important insights into the role of cloud-based accounting systems in enhancing financial information reliability within the context of Algerian organizations.

With regard to the first hypothesis (H1), the positive relationship between cloud-based accounting system adoption and financial information reliability is consistent with prior research highlighting the benefits of digital transformation in improving financial reporting quality **(Bernard Owusu Antwi, 2024).** Cloud-based systems enable real-time data processing, incorporate automated control mechanisms, and significantly reduce the likelihood of manual errors. Together, these features contribute to more accurate, consistent, and reliable financial information. This result reinforces the view that the adoption of cloud technologies alone leads to meaningful improvements in financial outcomes, even in the absence of additional mediating mechanisms.

The second finding relates to the mediating role of system effectiveness (H2). The results indicate that system effectiveness partially explains how cloud-based systems influence financial information reliability. In this context, cloud technologies enhance reliability not only through direct mechanisms—such as automation and data integrity—but also indirectly by improving the overall effectiveness of the accounting system **(Kevin L. Papiorek, 2023)**. This dual pathway highlights the importance of implementation quality and user-perceived system performance in translating technological capabilities into tangible benefits.

The third finding concerns the moderating role of organizational size (H3). The results indicate that the impact of cloud-based system adoption on financial information reliability varies depending on the size of the organization. Larger organizations derive greater benefits, which may be attributed to their superior access to resources, more structured implementation processes, and higher levels of technical expertise **(Hien.Vo.Van, 2024) (M. M. Hussain Shahadat, 2023)**. In contrast, smaller organizations face constraints that limit their ability to fully leverage cloud-based systems, suggesting the need for targeted support and simplified implementation strategies.

7.2 Theoretical Contributions

This study contributes to the existing literature in several meaningful ways. First, it provides empirical evidence supporting the relationship between cloud-based accounting system adoption and financial information reliability within a North African context that has received limited attention in prior research. Second, it highlights the importance of mediation mechanisms, demonstrating how technological adoption translates into organizational outcomes through system effectiveness. Third, it documents the presence of moderation effects, showing that the benefits of cloud adoption are not uniform across organizations but vary according to structural characteristics such as size. Finally, the study extends existing theoretical frameworks on technology adoption in SMEs by incorporating accounting-specific outcomes, thereby enriching the intersection between information systems and accounting research.

7.3 Practical Implications

The findings of this study offer several practical implications for different stakeholder groups. For accounting professionals, the results emphasize the importance of adopting cloud-based systems as a strategic tool to improve financial information reliability and strengthen organizational credibility. For SME managers, the findings suggest that successful cloud adoption requires more than simply implementing new technologies. It is equally important to invest in system effectiveness through adequate training, effective change management, and continuous process improvement.

From a policy perspective, the results indicate that government initiatives aimed at promoting digital transformation should consider organizational differences, particularly in terms of size. Tailored support programs and capacity-building initiatives may be necessary to help smaller organizations overcome adoption barriers. For auditors and regulators, the

enhanced audit trails and improved data integrity associated with cloud-based systems highlight the need to adapt audit practices and regulatory frameworks to align with increasingly digitalized environments.

7.4 Limitations

Despite its contributions, this study is subject to several limitations that should be acknowledged. First, the use of a cross-sectional design limits the ability to establish causal relationships over time, suggesting that longitudinal studies would provide deeper insights. Second, the reliance on self-reported data introduces the possibility of common method bias and social desirability bias, which may influence the responses. Third, the geographic focus on Algeria restricts the generalizability of the findings to other regions, particularly beyond North Africa and the Middle East. Fourth, given the rapid evolution of cloud technologies, the findings reflect current technological conditions and may not fully capture future developments. Finally, the sample is drawn from organizations with accessible professional networks, which may exclude informal or unregistered enterprises.

7.5 Future Research Directions

Building on these limitations, several avenues for future research can be identified. Longitudinal studies could be conducted to track the adoption and impact of cloud-based systems over time, providing a more dynamic perspective on their effects. Qualitative approaches, such as case studies, may offer deeper insights into implementation challenges, change management processes, and contextual adaptations. Comparative studies across different North African countries could further enhance understanding of regional differences in cloud adoption. In addition, future research may focus on the effectiveness of specific cloud platforms, such as SAP, Oracle, or locally developed solutions. Finally, incorporating the perspectives of additional stakeholders—including system vendors, IT consultants, and external auditors—would provide a more comprehensive view of the ecosystem surrounding cloud-based accounting systems.

Overall, this study highlights the critical role of cloud-based accounting systems in enhancing financial information reliability and provides a robust foundation for future research and practical advancements in digital accounting within emerging and developing economies.

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