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The Impact of Cloud-Based Accounting Systems on Financial Transparency and Decision-Making in Iraqi SMEs

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ABSTRACT:

Digital transformation is revolutionizing financial practice worldwide. Current technological developments have significantly affected SMEs' financial reporting and strategic decisions. This study examines how cloud-based accounting systems affect Iraqi SMEs' financial transparency and in turn decision-making. A deductive, quantitative research design was employed, utilizing standardized questionnaires to collect data from 280 employees of Iraqi small and medium-sized enterprises (SMEs) who possess professional experience in the field of accounting. The results confirm that cloud accounting application and access had minor effects, whereas user competence show no impact. These findings affect SME owners, accountants, and policymakers. Cloud software, personnel training, system integration, and cybersecurity must be invested in to maximize cloud-based system outcomes. Policymakers may help local enterprises embrace digital literacy and cloud computing by creating guidelines and training. This study covers Iraqi SMEs, which have been underrepresented in worldwide studies on the digital accounting revolution in emerging countries, adding to the body of knowledge. It provides a detailed explanation of how a complex network of technological and human factors affects financial results and can be used as a model for introducing technological advances to the financial sector in a similarly structured economy.

Keywords: Cloud Accounting, Financial Transparency, Decision-Making Quality, Digital Transformation and Iraqi SMEs

1 INTRODUCTION

Digital transformation in financial systems has changed organizational practices in various sectors recently to a significant extent. An essential part of this change is the introduction of cloud-based accounting systems (CBAS) that provide real-time access to financial information, automation of the financial processes, and better decision-making abilities. Cloud accounting is a new technology with online servers and cloud-based accounting tools that utilize the cloud to execute the accounting tasks that are normally kept on-site. Such a shift can enable companies to simplify operations, enhance cooperation, and increase transparency in financial reporting [1].

Cloud accounting systems are an opportunity and challenge to the small and medium enterprises (SMEs), especially those located in the developing economies. On the one hand, such systems can decline IT expenses, facilitate scalability, and provide expedient knowledge needed to make managerial decisions. Conversely, user competency, data security, adoption system integration, and technology readiness are important factors that have made cloud accounting a successful adoption in accounting [2]. These considerations are particularly relevant when it comes to resource-constrained regions such as Iraq, where SMEs are the key drivers of the economy but may not have enough options within proper infrastructures and regulations.

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Integrating core business processes with the system has been singled out as a key indicator of cloud accounting performance. An integrated system will permit the smooth flow of information, reduce redundancy of data, and enable a single reporting system at different organizational units. Researchers have established that integration increases financial operations-related efficiency and reinforces internal control systems [3]. On the same note, user competency has become a noteworthy driver of system usage. The same multiplex genomics systems can prove to be ineffective and will not yield results as expected without adequate training and technological literacy [4].

Accessibility score is just as important. Although the main advantage of cloud systems is the ability to access financial data anywhere at any time, there are also certain risks connected with cyber threats, unauthorized access, and data loss. Security is a direct element affecting the level of trust and readiness of people to use such systems, particularly in the area where regulatory duties are either lax or loosely practiced [5]. The usability and reliability of cloud accounting solutions are also defined by accessibility, i.e., both the technical availability of cloud accounting and user rights management.

New literature claims a significant connection between cloud accounting and better financial transparency. Cloud accounting leads to clearer and more accurate financial information being disclosed to both internal and external parties through the elimination of manual data errors, automation of the data entry process, and a faster flow of information in real time [6]. Increased transparency, in its turn, leads to more informed and strategic decision-making, which becomes critical in terms of sustainability and competitive performance of the organization in the volatile markets.

Irrespective of these emerging realizations, it is evident that, existing literature does not adequately investigate the impact of cloud accounting on financial transparency and decision-making of developing economies such as Iraq, especially in the Kurdistan Region. The major deficiency seen in most of the previous research studies was that they focused on developed countries, and a research gap existed on the nature of the specific difficulties and influences in SMEs that were faced in limited infrastructures and restrictive regulations.

This research intends to examine how cloud accounting affects transparency and decision making in the Iraqi SMEs. It investigates the influence of the variables, including system security, technological capability, use of cloud accounting, competency of the users, data accessibility, and system integration on the two major outcomes, namely, financial transparency and quality of financial decision-making.

The goals of the present research are the following:

- An investigation of the relationship between financial transparency in the Iraqi SMEs and the cloud-based accounting system.
- To determine the impact that cloud accounting has on financial decision-quality.
- To measure how the relevant technological and user-related factors can affect the effective adoption of cloud accounting.
- Adding developing-country scenery empirical evidence to the literature on digital financial transformation.

The contribution of the paper to the literature area is that the integrated cloud accounting approach has been employed to cover the understudied environment of the Iraqi SMEs. As opposed to the fact that earlier research focused on singular elements of digital finance this study integrates various technological, security, and subject-related variables to give a stable picture of the way cloud accounting systems affect transparency and decision-making. It also provides regional context in a place where the digital infrastructure and policy implementation are still in the development process thus making it a theoretical as well as practical contribution.

2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. UPPER ECHELON THEORY

The Upper Echelon Theory, pioneered by [7], suggests that organizational outcomes including strategies and performance are reflections of the values, cognitive bases, and experiences of top executives. These traits shape how managers interpret situations and make decisions, ultimately influencing strategic choices and organizational outcomes. In the context of CBAS, UET serves as a useful lens to understand how leadership awareness, digital readiness, and strategic vision determine successful technology adoption and usage.

This paper will rely on UET to understand how the managerial view of technological ability, data security and integration readiness influences cloud-based accounting adoption. Since CBAS implementation transforms workflows and departmental collaboration, leadership commitment and competence are essential for ensuring that digital tools lead to improved transparency and decision-making.

The study is an addition to the existing literature based on utilizing UET in the unexplored setting of Iraqi SMEs to demonstrate the influence of leadership perspectives in resource-limited economies on cloud technology results.

Recent research has highlighted the applicability of UET in interpreting digital transformation efforts in developing economies. An example is the study by [8], which indicates that executive leadership is decisive in the implementation of financial technology solutions in Southeast Asian SMEs, and leadership attitudes determine resource allocation and training of employees. On the same note, [9] disclose that the effectiveness of digital accounting systems is not only determined by the availability of infrastructure, but also by the integration strategies and alignment of leadership and organizations.

[10] build on UET and show that perceived digital competency and security awareness among leaders is a positive predictor of successful implementation of cloud-based systems in both the public and the private institutions. These results indicate that the strategic vision of the top management influences organizational readiness, system usability and finally, the quality of financial reporting.

Moreover, [11] discover that in digitally immature settings, including most emerging economies, the leadership commitment to governance and system integration is a strong determinant of whether digital tools will lead to actual performance benefits. This helps to argue that such variables as System Security Score, Technological Capability Score, and System Integration Score could be regarded as feasible results of upper-level decision-making even when the operational-level employees are surveyed.

The current research builds upon UET by generalizing these studies to a context that has not been studied extensively, Iraqi SMEs, where the leadership behavior indirectly influences the digital outcomes via strategic investment in technology and security. This also fills a theoretical gap in the literature on the indirect channels of managerial influence in infrastructure-constrained regions with limited data.

2.2 CLOUD ACCOUNTING USAGE AND TECHNOLOGICAL CAPABILITY

Cloud accounting is revolutionizing financial reporting by enabling real-time analysis, remote data storage, and automated processing. Usage levels including how frequently systems are accessed, the variety of tools used, and the breadth of system functionality play a central role in enhancing financial transparency and agility [12].

Technological capability refers to the firm's ability to deploy and integrate digital systems efficiently. It encompasses infrastructure, user training, and support systems that reduce implementation barriers [13]. The findings of earlier studies affirm that greater technological endowment increases automation and interactivity, which promotes more transparent reporting and decision making. Nevertheless, other reports indicate that the said effects are contingent on the level of engagement and integration by the user- indicating the necessity of an integrated model.

In this way, the proposed study seeks to examine the role of used clouds and technological readiness as a combination in financial transparency and decision-making among Iraqi SMEs, an area with few empirical studies, yet highly pressured due to digitalization.

H1: Cloud Accounting Usage positively affects Financial Transparency.

H2: Technological Capability positively influences the Quality of Financial Decision-Making.

2.3 USER COMPETENCY, SYSTEM INTEGRATION, AND DECISION-MAKING

User competency refers to the ability of employees to use cloud-based systems effectively. It includes digital literacy, system navigation, and error minimization. Skilled users can ensure data accuracy, reduce mistakes, and support effective system use for decision-making [14].

System integration reflects how well CBAS connects with other departments like HR, sales, and procurement. Full integration reduces redundancy and supports real-time, cross-functional insights that strengthen financial decisions [15].

Though there are numerous studies on these factors, there are not many studies that deal with the combined impacts on financial decisions within SMEs. The research covers that gap by empirical testing of each construct within an integrated model.

H3: User Competency positively influences Financial Transparency.

H4: System Integration positively influences the Quality of Financial Decision-Making.

2.4 SYSTEM SECURITY, ACCESSIBILITY SCORE, AND TRANSPARENCY

System security remains a core concern for cloud adoption, especially in developing countries. Threats such as unauthorized access, data breaches, and information loss hinder the shift to digital systems. However, enhanced encryption, authentication controls, and secure infrastructure can boost user trust and regulatory compliance [16].

Accessibility refers to how easily users can retrieve and use financial information from cloud systems across devices and locations. While accessibility enhances efficiency, it also raises concerns around cyber threats if not properly secured.

Identification of which of the two factors security or accessibility has a greater impact towards transparency is contradictory. Others list access availability as the key to adoption whereas lack of good security leads to lack of credibility to systems. This contradiction constitutes an evident gap in research.

It is this gap that this study tries to fill by examining these two constructs simultaneously and determining their impact on transparency and decision-making in Iraqi SMEs where lack of infrastructure and weaknesses in governance are known to be obstacles.

- **H5:** System Security Score positively affects Financial Transparency.
- **H6:** Accessibility Score positively affects the Quality of Financial Decision-Making.

2.5. THEORETICAL MODEL SUMMARY

The conceptual model synthesizes six independent variables Cloud Accounting Usage, Technological Capability, User Competency, System Integration, System Security, and Accessibility Score and examines their influence on two critical outcomes: Financial Transparency and Financial Decision-Making Quality.

These independent variables reflect both the technological and human factors essential for successful digital accounting implementation. This study advances the knowledge by providing new empirical evidence in the literature to test this model against the context of the Iraqi SMEs. It fills the scholars who do not study these factors together in a developing economy limited in digital infrastructure and can provide both theoretical and practical value.

Although other research has been conducted on cloud accounting adoption, there are still limited studies that have adopted these six variables into a resource-constrained environment. This paper enlightens me on the comprehensive information regarding the shaping of technological capability and human preparedness that collectively determines financial governance and the quality of decisions.

3 METHODOLOGY

3.1 STUDY SAMPLE

The sample size was 28 companies that were performing in different sectors in Iraq and had already established or are attempting to establish CBAS. The total number of valid answers was 280; each firm provided 10 people who worked in departments related strongly to accounting, finance, or IT management. Such departments were internal auditing, financial control, system administration, and accounting operations. The purposive sampling method was employed so that the participants had pertinent technical and financial skills. Table 1 presents the demographic distribution of the respondents by position, educational qualification, and years of professional experience.

Table 1. Sample Demographic Characteristics.

Variable	Category	Frequency	Percentage
Work Position	Accountant	110	39.3%
	Financial Analyst	65	23.2%
	Internal Auditor	55	19.6%
	Financial Manager	30	10.7%
	IT Specialist	20	7.2%
Education level	Bachelor's	150	53.6%
	Diploma	30	10.7%
	Master's	80	28.6%
	PhD	20	7.1%
Work Experience	1–5 years	70	25.0%
	6–10 years	120	42.9%
	11–15 years	60	21.4%
	16+ years	30	10.7%
Total		**280**	**100%**

3.2 DATA COLLECTION

An attempt to identify the effect of CBAS on financial transparency and a quality measure of financial decision-making of the Iraqi SMEs, this paper considered the deductive, quantitative, and cross-sectional research design. To determine how hypotheses based on Upper Echelon Theory may be empirically tested and to examine the effect of certain technological, organizational, and human factors on financial performance, this approach was selected. The primary information was gathered with the help of a structured/closed-ended questionnaire that was administered to a purposive sample consisting of professionals operating within the accounting, auditing, financial management, and IT departments of 28 SMEs functioning in Iraq.

There were 10 participants per firm, giving a total number of 280 valid responses. The sample contained people holding the appropriate qualifications as well as responsibilities, which are financial reporting and decision-making procedures. It comprised the development of the data collection tool based on the previous empirical literature, which included four main sections. The initial part collected demographic information like the job role, educational level, and experience gained. The second part was used to assess six dimensions of CBAS, including cloud accounting usage, tech capability, user competency, system integration, data security, and accessibility.

The third block was used to evaluate the degree of financial transparency, whereas the quality of financial decision-making in the organization was recorded in the fourth block. The instrument included every one of the items, which were rated on a five-point Likert scale (1-strongly disagree and 5-strongly agree). To obtain content validity, academic experts reviewed the early draft of the questionnaire and offered their comments on the clarity of items, language, and concept relevance. A pilot study of the 15 participants representing five SMEs was next carried out to determine ambiguities and to establish internal consistency of the questionnaire.

The final data collection has been reduced to just a few changes as I implemented based on the pilot feedback. After collecting the data, we ran statistical tests to check how reliable and valid it was: we looked at internal reliability using Cronbach alpha, construct reliability through exploratory factor analysis and structural equation model assumptions, and construct validity also with exploratory factor analysis. The last instrument consisted of 31 items, where 21 items reflected independent variables and 10 reflected dependent constructs. The internal consistency (reliability) of the questionnaire was found to be acceptable, as the following Cronbach alpha coefficients are above the recommended value of 0.70. The research methodology provided a rigorous and systematic effort to investigate how the practice of cloud-based accounting could contribute towards improvement in financial transparency and decision-making in the Iraqi SME sector.

3.3 RESEARCH DESIGN

This study used a deductive research method aimed at testing the influence of CBAS on financial transparency and the quality of financial decision-making of Iraqi SMEs. It was a good strategy considering the purpose, which was to test the hypothesis formed based on previous theories, especially the Upper Echelon Theory, and to evaluate how the empirical correlations exist between the practice of cloud accounting and financial performance.

The research assumed a cross-sectional research design (quantitative), which employed structured questionnaires as a main tool for collecting primary data on the financial and accounting staff of Iraqi companies. The design will allow a thorough objective study of the impact of various factors like security of the system, competency of the user, capability of the technology, and system integration on transparency of the system and decision-making within the real-world scenario of an organization. This research was done about cloud-based accounting technologies as the same magnitude of change in the financial practice that could be utilized as solutions to the problem of finance practices implications for the effectiveness of managers and operations.

3.4 VARIABLE OPERATIONALIZATION

Table 2. Variables and Measurements

Variable	Abbr.	Measurement (Items)	Source
		Dependent Variables	
Financial Transparency	FT	6 items on clarity, accountability, and timely disclosure of financial information	[17]
Decision-Making Quality	DMQ	5 items on timeliness, accuracy, and strategic alignment in decision-making	[18]
		Independent Variables	
Cloud Accounting Usage	CAU	5 items on frequency, scope, and modules used in cloud-based accounting systems	[19]
User Competency	UCS	5 items on users' digital literacy, training, and comfort in using accounting systems	[20])
Accessibility Score	AS	5 items on anytime-anywhere data access, device compatibility, and user permissions	[21]
System Integration	SIS	5 items assessing integration across departments (e.g., HR, sales, finance)	[22]
Technological Capability	TCS	5 items measuring infrastructure readiness, automation level, and IT support	[23]
System Security Score	SSS	5 items on encryption, login security, data backups, and breach response mechanisms	[24]

3.5 RELIABILITY AND VALIDITY TESTS

3.5.1 RELIABILITY TEST

To determine the internal consistency reliability of the measurement scale, both Lambda coefficients and Cronbach's Alpha were computed. The Lambda values ranged from 0.712 to 0.896**,** all exceeding the commonly accepted threshold of **0.70**, indicating strong reliability across the constructs [25]. The sixth construct demonstrated the highest reliability (**λ = 0.896**), while the first construct showed the lowest but still acceptable reliability (**λ = 0.712**).

In addition, Cronbach's Alpha for the overall scale was found to be **0.814**, further confirming the consistency of the items in measuring their intended latent variables. This value reflects good reliability, as per established benchmarks [26] and [27], and supports the appropriateness of the instrument for further statistical analysis.

Together, these two tests affirm that the eight questionnaire items exhibit strong internal consistency, validating the robustness of the instrument used to capture the constructs of financial transparency, decision-making quality, and digital transformation dimensions.

Table 3. Cronbach's Alpha and Split-Half (Lambda) Reliability Results

Reliability Test	Statistic	Value	Number of Items
Cronbach's Alpha	α	0.814	8
Split-Half (Lambda 1)	λ_1	0.712	4 (Part 1)
Split-Half (Lambda 2)	λ_2	0.846	4 (Part 2)
Split-Half (Lambda 3)	λ_3	0.814	—
Split-Half (Lambda 4)	λ_4	0.821	—
Split-Half (Lambda 5)	λ_5	0.826	—
Split-Half (Lambda 6)	λ_6	0.896	—

3.5.2 VALIDITY ASSESSMENT USING EFA

Exploratory Factor Analysis (EFA) was conducted to assess the construct validity and dimensionality of the eight observed variables included in this study. The results are summarized in Table 3. The communalities indicate how much variance in each variable is explained by the extracted components, with all values above the acceptable threshold of 0.6 (ranging from 0.610 to 0.873), suggesting a good level of shared variance between items and the factors.

Two components were extracted using Principal Component Analysis (PCA) with eigenvalues greater than 1, accounting for a total of 73.13% of the cumulative variance, which exceeds the recommended minimum of 60%, indicating excellent factor structure.

- Component 1 strongly loads on variables such as Financial Transparency Score (0.840), Financial Decision-Making Score (0.880), System Integration Score (0.658), and System Security Score (0.751), which appear to reflect governance and performance-related digital infrastructure.
- Component 2 captures loadings from Cloud Accounting Usage Score (0.643), User Competency Score (0.704), and Tech Capability Score (0.717), representing the technological readiness and user adoption dimensions.

The results suggest that the items cluster meaningfully into two latent dimensions and validate the conceptual grouping of the independent variables used in the study.

Table 4. Exploratory Factor Analysis (EFA) Summary Table

Variable	Communality (Extraction)	Component 1 Loading	Component 2 Loading
Financial Transparency Score	0.709	0.840	0.061
Financial Decision-Making Score	0.774	0.880	-0.002
Cloud Accounting Usage Score	0.610	0.443	0.643
User Competency Score	0.697	0.448	0.704
Data Security & Accessibility Score	0.633	0.582	-0.542
System Integration Score	0.696	0.658	-0.513
Tech Capability Score	0.859	0.588	0.717
System Security Score	0.873	0.751	-0.556

3.5.3 THEORETICAL CLARIFICATION – UNIT OF ANALYSIS

Although the present research is based on the Upper Echelon Theory (UET), which has conventionally focused on the impact of the top management features on the strategic decisions, the empirical evidence was gathered among the operational and middle-level workers. This strategy does not disclose the theoretical background, but it is a contextual adjustment. In particular, the managerial influence is indirectly captured in the perceived quality of organizational systems like technological capability, system integration, and security infrastructure as the strategic results of executive decision-making. The operational-level employees are the most exposed to these systems and processes and therefore are good informants as to their effectiveness and consistency with top-level strategy. This indirect use of UET is justified by the previous literature that acknowledges the spread of strategic decisions across organizational levels during the implementation stage of digital transformation projects.

4 RESULTS

4.1 DESCRIPTIVE ANALYSIS

We have also computed descriptive statistics to quantify the mean and variations of the study variables. As it comes out, the data set contains 280 valid observations per construct. The average of all the variables is within a limited range (11.72-12.09), which shows that there is not much difference in the agreement of the respondent in all the constructs.

The results of the dependent variables (Financial Transparency Score (FTS) and Financial Decision-Making Score (FDS) yielded mean scores of 12.01 and 12.02 and standard deviations of 1.634 and 1.838, respectively, indicating that the sample is quite homogenous in its perception as far as transparency and the quality of decisions are concerned.

The Cloud Accounting Usage Score (CAU) had the lowest average score and the smallest variation, showing that people gave similar answers about their use of cloud services. The System Security Score (SSS), on the other hand, had the highest average score (12.09) and the largest variation (2.011), indicating that people's opinions on security issues in cloud accounting were quite different. The variation values of 1.615 (SAUS) to 4.046 (SSS) further support this trend of differing opinions. The System Security Score (SSS), in its turn, had the highest mean (12.09) and the biggest standard deviation (2.011) that demonstrated that respondents were rather mixed in their evaluation of security-related issues within the framework of cloud accounting.

The dispersion values of 1.615 (SAUS) to 4.046 (SSS) prove this trend of dispersion even further. Even the likes of Tech Capability Score (TCS) and User Competency Score (UCS) indicated a moderate gap, indicating good spans of recent iterations among various firms and user experiences (standard deviations of 1.891 and 1.361, respectively).

In summary, the descriptive analysis results indicate that the response patterns are mostly similar across the response variables, although there is some variation in the areas of security and technology. Internally, it assists in the reliability of the information when it comes to inferential statistical analysis that includes correlation, regression, and structural equation modeling.

Table 5. Descriptive Statistics

	N	Mean		Std. Deviation	Variance
FT	280	12.01	0.098	1.634	2.670
DMQ	280	12.02	0.110	1.838	3.380
CAU	280	11.72	0.076	1.271	1.615
UCS	280	11.74	0.081	1.361	1.851
AS	280	11.89	0.088	1.480	2.189
SIS	280	11.88	0.091	1.529	2.339
TCS	280	11.91	0.113	1.891	3.576
SSS	280	12.09	0.120	2.011	4.046
Valid N	280				

Note: Financial Transparency (FT) and Decision-Making Quality (DMQ), Cloud Accounting Usage Score (CAU), Technological Capability Score (TCS), User Competency Score (UCS), System Integration Score (SIS), Accessibility Score (AS), and System Security Score (SSS).

4.2 CORRELATION ANALYSIS

Pearson correlation coefficients were computed to observe the correlation of the study variables with each other. The outcomes are coded down in the correlation matrix and demonstrate the existence of some substantial associations at the level of significance of 0.01 (2-tailed).

Financial Transparency Score (FTS) and Financial Decision-Making Score (FDS) were significantly related ($r = 0.668$, $p < 0.01$), which implies that financial transparency is linked to better quality of decision-making.

The independent variables had strong positive correlations between them and with the dependent variables. As an example, System Security Score (SSS) was closely correlated with FTS ($r = 0.556$, $p < 0.01$) and FDS ($r = 0.645$, $p < 0.01$), which implies that the better the security, the more it will add to the transparency and high-quality decisions. In a similar fashion, the System Integration Score (SIS) was strongly correlated both with FTS ($r = 0.480$) and FDS ($r = 0.523$), which demonstrates once again that integrated systems are important elements of financial reporting and decision-making.

Tech Capability Score (TCS) and User Competency Score (UCS) were also substantially connected with FDS ($r = 0.521$ and 0.327, separately) and relatively related to FTS ($r = 0.539$ and 0.367). Even though the strength of the relationship was a bit lower, the Cloud Accounting Usage Score measured positively with both FTS ($r = 0.297$) and FDS ($r = 0.340$).

Interestingly, the Accessibility Score (AS) showed a strong positive connection with FDS ($r = 0.440$) and FTS ($r = 0.370$), and its links to some other factors (like UCS $r = -0.041$ and TCS $r = -0.028$) suggest that these relationships might need more investigation.

The correlation matrix generally confirms that financial transparency and the quality of decision-making positively correlate with most independent variables. These findings confirm the theoretical assumption that all the technological, security-driven, and competency-driven parameters of cloud accounting have a major role in boosting financial results. Moreover, the absence of extremely high correlations (none of the variables exceed 0.70) among the independent

variables indicates that the risk of multicollinearity is relatively low, which is appropriate prior to further regression analysis.

Table 6. Correlation Analysis

	FT	DMQ	CAU	USC	AS	SIS	TCS	SSS
FT	1.00							
DMQ	0.668**	1.00						
CAU	0.297**	0.340**	1.00					
UCS	0.367**	0.327**	0.502**	1.00				
AS	0.370**	0.440**	-0.050	-0.041	1.00			
SIS	0.480**	0.523**	0.011	-0.069	0.490**	1.00		
TCS	0.539**	0.521**	0.627**	0.697**	-0.028	0.027	1.00	
SSS	0.556**	0.645**	0.020	-0.018	0.702**	0.725**	0.000	1.00

****. Correlation is significant at the 0.01 level (2-tailed).**

4.3 ANOVA TEST

The Analysis of Variance (ANOVA) results from the two regression models provide factual evidence that the chosen independent variables are substantial predictors of both financial transparency and financial decision-making by the Iraqi SMEs.

When the dependent variable is Financial Transparency Score, in the first model, the regression sum of squares is 455.728 and the degrees of freedom is 6, whereas the residual sum of squares is 289.240 and the degrees of freedom is 273**.** The generated F-statistic of 71.690 is strongly significant ($p < 0.001$)**,** signifying that the incorporated predictors System Security Score, Tech Capability Score, Cloud Accounting Usage Score, User Competency Score, Accessibility Score, and System Integration Score have extensive variance in the results of financial transparency. It implies that firm digital infrastructure, secure systems, and a higher degree of user competency may lead to more clarity of financial reporting as well as integrity.

With the financial decision-making score as a dependent variable, the same effects are provided in the second model. Regression sum of squares and residual sum of squares can be found to be 652.484 and 290.426 over 6 and 273 degrees of freedom, respectively. The final F-value is also significant at $p < 0.001$, coming out to be 102.222, which reinforced the explanatory effect of the model. These findings indicate that the digital transformation elements, especially technical competency, system security, and integration, have a profound effect on the quality of the financial decisions, leading to faster, more accurate, and evidence-based decision-making in the SMEs.

Listed collectively, the two models confirm the theoretical basis and support the necessity of a considerable impact that technological infrastructure, cloud-based accounting software, and user-friendly digital services should have on the improvement of the financial management industry in the SME environment. The findings present the explanatory power of the six main decision variables of digital capability applied in the analyses of Cloud Accounting Usage, Tech Capability, User Competency, System Integration, Data Security, and Accessibility. Such results offer a good empirical case to encourage the usage of digital accounting technologies among SMEs and in strategic investment of safe, united systems available to both financial clarity and high-quality decision-making in third-world economies.

Table 7. Anova Test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	455.728	6	75.955	71.690	0.000[b]
	Residual	289.240	273	1.059		
	Total	744.968	279			
a. Dependent Variable: Financial Transparency Score						
Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	652.484	6	108.747	102.222	0.000[b]
	Residual	290.426	273	1.064		
	Total	942.911	279			
a. Dependent Variable: Financial Decision-Making Score						

4.4 MODEL SUMMARY

The model summary statistics show that the regression models are very effective in explaining the factors that influence financial transparency and decision-making in digital accounting transformation. In the first model, with the Financial Transparency Score as the focus, the multiple correlation coefficient (R) is 0.782, which means there is a strong positive

connection between the outcome and the independent variables. In the first model, where the dependent variable is the Financial Transparency Score, the multiple correlation coefficient (R) is 0.782. This indicates a strong positive linear relationship between the outcome variable and the independent variables. The coefficient of determination (R^2) is 0.612, suggesting that approximately 61.2 percent of the variation in financial transparency can be explained by the combined effects of the predictors: System Security Score, Tech Capability Score, Cloud Accounting Usage Score, User Competency Score, Accessibility Score, and System Integration Score. The adjusted R^2 is also robust at 0.603, reflecting the model's validity and applicability after accounting for the number of predictors. The standard error of the estimate is 1.029, indicating an acceptable margin of error for predictions related to the dependent variable.

Likewise, results of the second model, which has the dependent variable Financial Decision-Making Score, were very significant too. It is also indicated by the R value of 0.832, which indicates a closer association between the independent variables and the performance of the decision-making task of the organization. The R^2 of 0.692 implies that the variability in financial decision-making is explained by the same group of independent variables to the tune of almost 69.2 percent. The value of the adjusted $R^2 = 0.685$ also shows that the model is of high explanatory power even after adjustments have been done to remove the effects of overfitting that may occur because of multiple predictors. The first model also shows consistency (1.031) in the standard error of the estimate, pointing to the consistency of the predictive framework as well.

Overall, all these results of the model summary support the theoretical hypothesis that digital transformation and, specifically, its variables associated with system integration, accessibility of data, user competency, and security infrastructure critically influence the development of not only transparency of financial reporting but also the quality and timeliness of financial decisions. These findings imply that organizations in emerging economies can leverage their technological infrastructure and digital experiences to enhance governance and overall performance.

Table 8. Model Summary

Model Summary					
Dependent Variables	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Financial Transparency Score	1	0.782[a]	0.612	0.603	1.029
Financial Decision-Making Score	2	0.832[a]	0.692	0.685	1.031

4.5 REGRESSION ANALYSIS

The regression analysis was performed using two models to examine the relationships between six independent variables and the two dependent outcomes: Financial Transparency (FTI) and Financial Decision-Making Quality (DMQ). The goal was to evaluate the individual contribution of each predictor to these critical financial outcomes among Iraqi SMEs.

In Model 1, where Financial Transparency was the dependent variable, the results revealed that Technological Capability Score (TCS) had the most significant positive effect ($B = 0.488$, $\beta = 0.565$, $p < 0.001$). This confirms that firms with a higher level of technological readiness and capability are more likely to implement transparent and streamlined financial reporting. Additionally, System Security Score (SSS) also showed a strong and significant relationship ($B = 0.383$, $\beta = 0.471$, $p < 0.001$), underscoring the importance of secure digital infrastructures in fostering stakeholder confidence and openness in financial records.

Another notable predictor was the System Integration Score (SIS), which had a modest but statistically significant positive effect ($B = 0.142$, $\beta = 0.133$, $p = 0.018$). This indicates that better integration of accounting systems with other business operations leads to greater clarity and precision in financial reporting, consistent with the expectations from modern enterprise resource planning practices.

Conversely, three variables did not show statistically significant effects on financial transparency. These included Cloud Accounting Usage (CAU) ($p = 0.079$), User Competency Score (UCS) ($p = 0.530$), and Accessibility Score (AS) ($p = 0.805$). Although CAU approached significance, its negative coefficient ($B = -0.111$) suggests a potential implementation barrier, where early adoption stages or resistance to change might result in confusion or inefficiencies that hinder transparency. This may reflect the transitional phase many SMEs in developing economies like Iraq experience, where cloud adoption is initiated but not yet fully institutionalized or integrated.

The insignificance of User Competency could be attributed to a mismatch between employee digital skills and the complexity of the systems in use, indicating that competency gaps might neutralize the benefits expected from technological tools. Likewise, Accessibility Score's lack of significance suggests that while cloud systems may be technically accessible, broader factors such as inconsistent internet infrastructure or inadequate device compatibility may prevent that accessibility from translating into measurable transparency benefits.

In Model 2, where Financial Decision-Making Quality was the dependent variable, similar patterns were observed. Technological Capability Score again emerged as the strongest and most significant predictor ($B = 0.525$, $\beta = 0.540$, $p <$

0.001), followed closely by System Security Score (B = 0.530, β = 0.580, $p < 0.001$). This reaffirms the critical role of technological infrastructure and secure systems in supporting effective, timely, and well-informed financial decisions.

System Integration Score, though positively associated (B = 0.100), did not meet the conventional threshold of significance ($p = 0.093$), implying that its contribution to decision-making may be context-dependent or secondary to more foundational elements such as system capability and security.

Once again, Cloud Accounting Usage, User Competency, and Accessibility did not demonstrate significant influence, highlighting a consistent pattern across both models. These findings suggest that the presence of cloud tools or the perception of user access alone does not automatically lead to improved outcomes. Instead, it is the organizational readiness, technological depth, and secure system design that ultimately drive meaningful enhancements in both financial transparency and decision-making quality.

Collectively, the results emphasize that technological capability and system security are the most decisive enablers of digital transformation success in financial contexts. For Iraqi SMEs and similar firms in developing economies, investments in these domains are likely to yield the greatest return in terms of governance, performance, and competitiveness. On the other hand, the insignificance of several commonly promoted variables underscores the need for a more strategic and integrated implementation approach, beyond simple technological adoption.

Table 9. Model Summary

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t stat.	Sig.
		B	Std. Error	Beta		
	Constant	0.885	0.924		0.958	0.339
	CAU	-0.111	0.063	-0.086	-1.764	0.079
1	UCS	0.040	0.064	0.034	0.629	0.530
	AS	-0.014	0.059	-0.013	-0.247	0.805
	SIS	0.142	0.059	0.133	2.389	0.018
	TCS	0.488	0.051	0.565	9.529	0.000
	SSS	0.383	0.055	0.471	6.978	0.000
a. Dependent Variable: FT						
2	Constant	-1.456	0.926		-1.573	0.117
	CAU	0.010	0.063	0.007	0.165	0.869
	UCS	-0.049	0.064	-0.036	-0.761	0.447
	AS	0.007	0.059	0.006	0.123	0.902
	SIS	0.100	0.059	0.083	1.683	0.093
	TCS	0.525	0.051	0.540	10.216	0.000
	SSS	0.530	0.055	0.580	9.643	0.000
a. Dependent Variable: DMQ						

4.6 HYPOTHESES TESTING SUMMARY

The regression analysis results are summarized below to indicate whether each hypothesis was supported based on statistical significance ($p < 0.05$):

Table 10. Summary of hypothesis

Hypothesis	**Statement**	**Supported**
H1	Cloud Accounting Usage → Financial Transparency & Decision-Making Quality	Not Supported
H2	Technological Capability → Financial Transparency & Decision-Making Quality	Supported
H3	User Competency → Financial Transparency & Decision-Making Quality	Not Supported
H4	System Integration → Financial Transparency	Supported
H4	System Integration → Decision-Making Quality	Not Supported
H5	System Security → Financial Transparency & Decision-Making Quality	Supported
H6	Accessibility → Financial Transparency & Decision-Making Quality	Not Supported

CONCLUSION AND DISCUSSION

The proposed study will focus on the role that the dimensions of digital transformation that will be system security, technological competence, cloud-based accounting, accessibility score, user competence, and system integration play in influencing two important organizational outcomes financial transparency and quality of financial decisions in the context of the Iraqi SMEs. The research is a complete empirical estimation unlike other studies that tend to analyze these variables separately or in developed economies which are highly researched. The analysis was able to consider practical limitation

in the lack of infra structure, digital literacy and governance with the aid of a structured questionnaire handed out to a strong sample of 280 respondents who represented diverse Iraqi small and medium enterprises.

The regression results demonstrate that technological capability and system security are the most significant predictors across both dependent variables. These findings reinforce the argument that an institution's ability to effectively manage and deploy digital technologies is not only foundational for operational efficiency but also essential for enhancing transparency and accountability. Likewise, the importance of secure digital systems highlights the necessity of strong cybersecurity frameworks in financial institutions, especially in an era marked by increasing digital exposure and cyber threats.

Moreover, system integration exhibited a statistically significant impact on financial transparency and a marginally significant effect on decision-making. This suggests that integrated platforms which facilitate seamless data flow and process automation can contribute positively to the clarity and reliability of financial information. On the contrary, the existence and prevalence of cloud accounting, the skills of individuals using it, and availability were theoretically critical factors that, however, proved to show insignificant effect in the models of the present study. This non-significance might be explained by the contextual factors, including the recentness of cloud accounting usage by Iraqi SMEs, the lack of digital maturity, the lack of user training, and the lack of alignment between technological and organizational strategies. In emerging economies, adoption tends to lead to ineffective utilization, and this could be the reason why these variables are yet to be translated into tangible performance results.

These results show that any digital systems that aim at producing actual organizational effects should be supported by internal capacity building, smart strategies of implementation and measures of performance evaluation otherwise their mere access or deployment will not serve organizational impacts and effects. The results underscore that digital transformation should not be perceived as a purely technological endeavor but rather as a multidimensional initiative that must be tightly coupled with governance structures and strategic capacity-building. In particular, the non-significant influence of cloud accounting and user competency implies that digital investments must be supported by adequate training, organizational change management, and performance monitoring to ensure they translate into measurable outcomes.

LIMITATIONS

Although this study has made contributions, it has some limitations. To begin with, the study is theoretically based on the Upper Echelon Theory (UET), but the data used was gathered among the operational and mid-level employees, but not the top executives. This leads to the indirect capture of managerial influence in terms of organizational and technological capabilities that indicate strategic decisions by the senior management. Although this method is theoretically justified, future research can enhance the use of UET by including direct answers by decision-makers of the executive level. Second, the cross-sectional character of the data does not allow tracking the changes in digital maturity and system effectiveness with time. Longitudinal research would provide more information on the development of cloud accounting applications and their impact on financial transparency and decision-making in the long term.

RECOMMENDATIONS

1- The present research has arrived at the following practical suggestions that companies and policymakers should follow based on the findings on the study:

2- Firms should invest in technological infrastructure by upgrading digital accounting tools, automation software, and data analytics platforms to improve financial transparency and decision-making quality. This recommendation is strongly supported by the regression results, as technological capability was found to be statistically significant across both dependent variables.

3- Policymakers must enforce stronger cybersecurity regulations, ensuring the adoption of secure authentication, data encryption, and real-time threat monitoring across financial institutions. System security had a significant effect on both financial transparency and decision-making quality, reinforcing this recommendation.

4- It is advised to integrate financial systems within firms to enable seamless data exchange, reduce reporting delays, and enhance internal control mechanisms.

5- This is supported by the significant role of system integration in financial transparency and its near-significant effect on decision-making.

6- Firms should provide regular training programs to improve user competency, particularly when implementing cloud accounting systems. Training should include technical workshops and user support strategies.

7- Although user competency and cloud accounting usage were not statistically significant in this study, this recommendation remains valid for long-term strategic development and capacity-building.

8- Policymakers should develop digital maturity assessment tools to help organizations evaluate readiness in terms of infrastructure, human capacity, and system implementation. This is particularly important since some predictors like accessibility and cloud accounting usage did not show significant influence, possibly due to early-stage adoption.

9- It is recommended to embed digital initiatives within governance frameworks to enhance accountability, oversight, and ethical system usage. Governance should guide digital priorities and ensure alignment with strategic goals.

10- Firms and regulators should encourage collaboration across the sector, including joint digital platforms, regulatory sandbox environments, and knowledge-sharing forums to accelerate innovation. Such collaboration could enhance the overall ecosystem maturity, supporting the long-term impact of variables that were not yet significant in this study.

Such purposeful efforts will ensure the eased digital transformation of the Iraqi financial sector that will support the firms to improve the quality of reporting, efficiency, and strategic planning. It is recommended that future researchers consider exploring other mediating factors, including organizational culture or leadership, in the quest to understand the results of digital integration better.

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