The Effect of AIS adoption on Effectiveness of Financial Processes in Jordan: The Mediating Role of Cloud Computing

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Abstract: This study investigates the impact of adopting Accounting Information Systems (AIS) on the effectiveness of financial processes in Jordan, with a particular focus on the mediating role of cloud computing use. Data was collected from 425 accountants across various sectors in Jordan. Structural equation modelling using SmartPLS 4 was used to evaluate both the measurement and structural models. The findings reveal that both PU and PEOU significantly influence cloud computing use, which in turn has a substantial positive effect on the effectiveness of financial processes. PU and PEOU also directly affect financial process effectiveness, although to a lesser extent. Furthermore, cloud computing use was found to partially mediate the relationships between PU and PEOU with financial process effectiveness. This study contributes to the literature by empirically validating a technology-driven model that integrates cloud computing use to explain improvements in financial performance in a developing country context.

Key-Words: - Accounting Information System, Cloud Computing, Financial Process Effectiveness, Perceived Usefulness, Perceived Ease of Use, Jordan

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1 Introduction

The demand for precise and up-to-date financial information, which is becoming increasingly important as businesses continue to grow and engage in a variety of commercial activities, is increasing. [1]. Accounting Information Systems (AIS) enable companies to manage vast amounts of financial data effectively, adapt to evolving regulatory requirements, and enhance the transparency of their reporting. At a time when data-driven decision-making is becoming increasingly prevalent, AIS helps organisations become more agile by delivering insights that can guide strategic decision-making. In addition, the integration of AIS with emerging technologies, such as cloud computing and data analytics, significantly strengthens its capabilities, hence strengthening its relevance in the process of navigating the complexities of current corporate environments [2].

AIS has become an essential component of the contemporary corporate environment as it serves as a structured framework to integrate accounting concepts with information technology in simplifying financial processes [3]. In the context of an organisation, the acronym AIS refers to the software, hardware, databases, and processes responsible for collecting, processing, storing, and disseminating financial information. It is the foundation for managing and reporting financial data, ensuring that the data is accurate, consistent, and in compliance with accounting rules [4].

The AIS makes it easier to generate financial statements, assists in decision-making processes, and supports strategic planning by delivering information that is both fast and trustworthy to important stakeholders. This goes beyond the usual bookkeeping functions [5]. AIS, in its most fundamental form, is capable of transforming raw financial data into valuable insights, which in turn enables enterprises to efficiently navigate the intricacies of the financial world [6].

Financial processes can benefit from AIS's resources, as they can enhance the quality of decisions made, improve the accuracy of financial

reporting, and ultimately improve overall business performance. AIS may also enhance financial management via data processing, pattern and anomaly detection, task automation, and real-time insights [7].

A combination of factors, such as the advancement of technology, the spread of globalisation, and the increasing complexity of financial transactions, is driving the growing significance of AIS in the modern corporate environment. These factors influence users' Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), the study's independent variables (IVs), which drive the adoption of AIS. As AIS becomes more beneficial and user-friendly, its adoption is expected to enhance the effectiveness of financial processes, the dependent variable (DV) in this study, according to the Technology Acceptance Model (TAM).

On the other hand, cloud computing plays a pivotal role in mediating the relationship between PU and PEOU, as well as in the financial process. It increases operational responsiveness and flexibility by enabling remote, real-time access to financial data. For organisations, especially those in Jordan, cloud computing enhances data security and compliance while reducing the expense and complexity of maintaining on-premises systems.

2 Literature Review

AIS has become an integral part of contemporary corporate operations due to its significant enhancement of financial processes across a wide range of enterprises. AIS use has thus grown to be a crucial aspect of modern commercial operations. For this reason, AIS use is a crucial part of modern company operations. These systems' primary goals are to enhance accuracy, streamline decision-making, and comply with legal and regulatory standards. Improving system speed is another one of their goals. To do this, accounting concepts and new technology are used [8]. By leveraging AIS, Jordanian companies can modernise their financial processes, improve decision-making capabilities, ensure compliance with local regulations, and enhance overall operational performance in alignment with global standards and best practices.

2.1 Accounting Information System (AIS)

An organisation's financial information is managed through the AIS, a component of the Management Information Systems. The AIS collects transaction data, monitors internal controls, and produces accounting information, including budgetary and financial statements.

Every organisation functions as a system that takes in inputs and converts them into outputs in the form of goods and services. A manufacturing company turns raw materials, labour, and other limited resource inputs into physical goods, like furniture, that are then sold in an effort to achieve profitability. A university pursues the overarching objectives of education and the advancement of knowledge by accepting a range of inputs, such as faculty labour and student time, and transforming these inputs into a variety of outputs [9]. The idea behind all organisational systems is that they all aim to achieve goals by allocating resources via a management decision-making process. Information has economic value when it aids in resource allocation decisions, which enables a system to achieve its objectives. In fact, the most crucial resource for an organisation may be information [10].

AIS is significant because they are socially built mechanism for the construction of symbolic forms of knowledge, which are more critical for representing, assessing, and regulating a wider range of social and economic domains [11]. As businesses conduct economic transactions in a business environment increasingly controlled by and concerned with a geographical context of "oneness," symbolic forms of knowledge have become an essential component of the battle for corporate survival [12].

A business environment where the concept of singularity, encompassing a single market, a single world civilisation, and a single global culture, has become central to the marketplace's governing mechanism. With a single, borderless society, the previously established political sovereignty map is still being redrawn by a market-driven movement that prioritises reducing institutional and economic diversity and views sustained socio-political heterogeneity as intolerable and unacceptable. Corporate AIS has become essential for making social, political, and economic actions knowable, quantifiable, responsible, and manageable in a business environment where information is both dominant and crucial [13].

More significantly, these kinds of systems are now essential to resolving conflicting business claims between opposing social groups within and outside the organisation. The effectiveness of business institutions and organisations, through which various levels of social, political, and economic power are expressed, is influenced by corporate accounting information mining systems, which are also involved in regulating the global flows of capital investment and business resources [14]. It is evident that the

widespread reach of corporate accounting information systems raises numerous questions. questions about the development of such accounting information systems, the rationale for using certain accounting information systems and practices, and the regulations governing these accounting information systems within businesses. Perhaps more crucially, this effect raises questions regarding the appropriateness of the understandings derived from the data that these corporate accounting information systems produce, as well as how they are used [15].

SMEs may reduce the risk of competitive pressure in the business environment by taking these factors into account. Furthermore, in the context of a less developed nation, [16] is cited as one of the first to provide actual data on the impact of AIS success on management control effectiveness among SMEs in Yemen. The findings indicated a positive correlation between management control effectiveness and AIS success. In particular, the findings showed that the effectiveness of management control is favourably impacted by AIS information quality, system quality, and usage; that the quality of the information and system primarily drives AIS usage and satisfaction.

Furthermore, according to [8], AIS significantly contributes to the value addition of Brunei's MMA Cube Stores firm. By creating a conceptual framework for understanding the role of AIS through its real-world applications and the nature of its implications, this research made a significant contribution. The framework created in this research can provide practitioners with guidelines for securing additional value, which has been criticised as being multifaceted and indirect, in addition to helping them successfully apply AIS.

2.2 Perceived Usefulness (PU)

The first aspect of this study is to examine the relationship between the performance of AIS and the Effectiveness of Financial Processes. In this aspect, this study aims to understand how perceptions of AIS can lead to a better and more effective financial process among Jordanian Firms. Overall, the relationship between the PU of AIS and the effectiveness of financial processes suggests that when users find AIS beneficial, they are more likely to utilise these systems, leading to improved financial processes. In other words, higher PU of AIS enhances user engagement and accuracy in financial management tasks, thereby increasing the overall effectiveness of financial processes. Moreover, PU may have a significant impact on the success of CC integration. Customers are more inclined to use cloud-based solutions when they see AIS as user-friendly and recognise its benefits. This enables businesses to enhance financial reporting and decision-making by using the scalability and real-time capabilities of cloud computing. This aspect has been studied in previous literature [17].

The research conducted by [18] analyzed and obtained data about the influence of users' PU, perceived quality, and PEOU of Internet financial reporting (IFR) on their intention to use IFR for investment decision-making. The findings of this research reveal that the PU and PEOS of IFR have a significant impact on the intention to use IFR in investment decision-making. To control the impact of PEOU, PU, and risk on user interest in utilising financial technology peer-to-peer lending, [19] conducted research to determine how these factors influence user interest. According to the findings, each of the variables tested had a positive impact on the level of interest shown by users.

This study is supported by evidence that PU significantly influences users' intention to adopt AIS, which in turn enhances the effectiveness of financial processes. Prior research also confirms that both PU and PEOU positively impact technology adoption, including cloud-based financial systems, reinforcing their roles as key determinants in this model.

2.3 Perceived Ease of Use (PEOU)

The second aspect of this study investigates the relationship between the PEOU of AIS and the effectiveness of financial processes in Jordanian firms. Ideally, the relationship between the PEOU of AIS and the effectiveness of financial processes indicates that when users find AIS easy to use, they are more likely to utilise these systems, resulting in improved financial processes. In other words, higher PEOU of AIS enhances user engagement and accuracy in financial management tasks, thereby increasing the overall effectiveness of financial processes [20].

To control the impact of perceived ease of use, perceived usefulness, and risk on user interest in utilising financial technology peer-to-peer lending, [19] conducted research to determine how these factors influence user interest. According to the findings, each of the variables tested had a positive impact on the level of interest shown by users.

This research was conducted by [18]. The purpose of this study is to analyse and obtain data about the influence of users' perceived usefulness, perceived quality, and perceived ease of use of Internet financial reporting (IFR) on their intention to use IFR for investment decision making. The findings of this research reveal that the perceived usefulness and perceived ease of use of IFR have a

significant impact on the intention to use IFR for investment decision-making.

2.4 Cloud Computing

In the realm of large dataset analytics and administration, cloud computing offers a number of useful solutions. The cloud-based computing model is a network-based, distributed delivery model developed for the purpose of providing clients with virtual computing services that are available on demand. Applications that are hosted in the cloud often run on multiple computers and servers connected to the internet. These machines and servers are available not just via machine-to-machine interactions but also through personal devices like smartphones and web browsers. The cloud computing model emphasises the customer by providing information technology (IT) capabilities in the form of subscription-based services that require minimal user-direct control and maintenance. Even while cloud computing may not be the most secure solution for handling sensitive data, several benefits can be attributed to it, including the following: The absence of geographical limits, cost-effectiveness, reliability, scalability to accommodate the requirements of consumers, and little direct requirements for customer-provided active administration of cloud-based resources are all advantages of cloud computing [21].

Self-service that is initiated by the user (on-demand access to network-enabled data storage, server time, applications, and so on); network access (computing capabilities that are available via a network for use on heterogeneous thick or thin client platforms, such as mobile phones, laptops, and workstations); economies of scale; and service flexibility [22].

Cloud computing offers several options for pay-per-use service agreements throughout implementation. Software as a Service (SaaS) applications operate on a subscription model, whereas Infrastructure as a Service (IaaS) is predicated on virtual servers, networks, operating systems, applications, and data storage solutions. Platform as a Service (PaaS) is a cloud computing model that enables providers to provide the infrastructure necessary for customers to develop and execute their applications. These represent but a fraction of the many alternatives accessible. Given that Infrastructure as a Service (IaaS) is often a pay-per-use outsourced service, it is crucial to highlight that the customer generally lacks control over the underlying cloud infrastructure. Nonetheless, they may possess authority over the operating systems, storage, and applications deployed inside their environment [23].

The adoption of AIS has a substantial effect on the use of cloud computing inside enterprises. Integrating state-of-the-art technology into the implementation of AIS is essential for enhancing the effectiveness and expanding the functionalities of accounting procedures. Organisations may effectively meet their increasing requirements by using cloud computing to store data, analyse information, and provide rapid access via AIS. Cloud-based AIS offers the flexibility to easily modify the scale and capabilities of data management, while also providing rapid access to current information. This can streamline and enhance the adaptability of managing extensive financial data for organisations. Moreover, cloud computing allows enterprises to use state-of-the-art technological breakthroughs without incurring substantial costs on their own IT infrastructure. This facilitates the seamless and effective enhancement and upkeep of AIS. Due to the rising use of AIS (Artificial Intelligence Systems), enterprises are progressively adopting cloud computing to enhance operational efficiency, save costs, and enhance data management capabilities [24].

Cloud computing has a significant impact on decision support, enhancing the efficiency of financial processes. Cloud computing provides a centralised system for storing and processing data, ensuring fast and up-to-date access to financial information. This enables expedited and accurate decision support. The capability to get data from a centralised place allows comprehensive analysis and reporting, which is crucial for making informed choices in financial management. Furthermore, the adaptability and nimbleness of cloud computing enable organisations to effortlessly meet changing business needs, ensuring that financial processes maintain a superior level of effectiveness and can respond promptly to dynamic market conditions [25].

2.5 Effectiveness of Financial Processes

Financial Process is “a process to achieve financial goals and plan for a specific amount of profit or financial ratios. This planning covers all activities and resources needed to manage all the financial processes” [26]. In addition, the effectiveness of Financial Processes is the degree to which financial processes within Jordanian organisations achieve efficiency and decision support in the context of their specific industry, size, and technology adoption level [27]. Decision support within financial processes involves the utilisation of tools, technologies, and systems to provide timely and relevant information for aiding strategic decision-making in financial management [28].

As decision support plays a vital role in contemporary accounting, the analysis of extensive data and the application of existing knowledge empower firms to make well-informed and strategic choices. Incorporating advanced information systems, particularly AIS, is vital for improving decision support mechanisms. These systems provide a robust framework for gathering, analysing, and evaluating financial data, ensuring that decision-makers have reliable and up-to-date information readily accessible. They assist companies in identifying patterns, predicting future financial situations, and assessing the consequences of different financial choices through functions such as instantaneous reporting, anticipatory analytics, and data representation. Enhanced clarity of financial data facilitates more efficient strategic decision-making and resource distribution, eventually bolstering the financial well-being and steadiness of the firm [29].

Furthermore, the use of cloud computing and other cutting-edge technologies greatly improves decision support in financial processes. Cloud-based solutions offer the advantage of quickly and easily altering, amending, and accessing financial data from anywhere and at any time. The constant availability of data ensures that decision-makers can promptly respond to changing financial circumstances and make informed adjustments. Moreover, the use of artificial intelligence and machine learning in financial information systems enables the automation of complex data analysis tasks, the revelation of hidden patterns, and the provision of valuable insights. These technologies may enhance the precision and reliability of financial predictions and risk assessments, thereby facilitating more informed and decisive decision-making [30].

To provide valuable decision-making support, it is crucial not only to create technology but also to ensure that financial information systems align with corporate objectives and regulations. An intricately networked system, specifically tailored to meet the unique requirements of the company, ensures that financial data is both relevant and accurate within its designated framework. This integration enables more stringent monitoring of financial performance and more thorough reviews of strategic activities. Using tailored dashboards and reporting tools may emphasize crucial performance indicators that are crucial for the success of the firm. This allows decision-makers to concentrate on the most relevant data [30].

Moreover, it is crucial to recognise the significance of human skills when integrated with cutting-edge information technology. Technology offers the essential resources and knowledge for decision support, but it is imperative to have proficient financial experts who can comprehend and use this information. These specialists utilise their expertise and experience to analyse the data provided by AIS, conducting thorough and informed assessments that take into account the broader context of the organisational vision's objectives and market conditions. Financial decisions may be made by combining human skills with technical capabilities, employing accurate information and a well-planned strategy.

Decision support in financial processes encompasses the integration of cutting-edge technology, alignment with strategic objectives, and the effective utilisation of human skills. Through the use of these components, companies may improve their capacity to understand financial information, foresee upcoming obstacles, and make knowledgeable choices that promote sustained prosperity [29].

In brief, decision support is the term used to describe the use of state-of-the-art technologies, such as Artificial Intelligence (AI) and AIS, to deliver pertinent and timely information to make financial decisions. Aligning company goals is made possible by customisable dashboards and reporting tools, while cloud computing improves data accessibility. In order to improve performance and decision-making over time, financial professionals' experience delivers precise assessments that combine electronic technology and human intuition.

The Technology Acceptance Model (TAM), which emphasizes perceived usefulness (PU) and perceived ease of use (PEOU) as key determinants of technology adoption, provides a valuable lens for understanding how AIS adoption can improve the effectiveness of financial processes. In the context of Accounting Information Systems, PU reflects the extent to which users believe that AIS enhances their job performance, while PEOU indicates how effortless the system is to use. When AIS—particularly cloud-based systems—are perceived as both useful and easy to operate, users are more likely to integrate them into their daily financial activities. This increased adoption facilitates real-time access to financial data, streamlined workflows, and improved decision-making accuracy, all of which are critical elements of effective financial processes. Thus, TAM not only explains user acceptance of AIS but also indirectly connects technology adoption with measurable improvements in financial process efficiency and performance. The full research framework is illustrated in Figure 1.

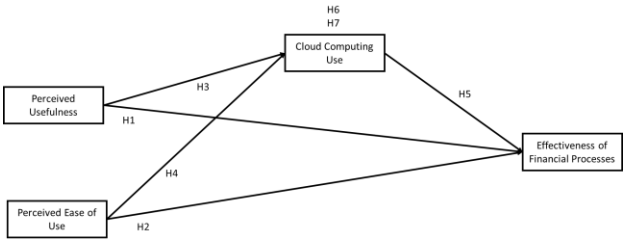

Fig. 1: Research Framework
Source: created by the authors

In brief, decision support within financial processes involves the utilisation of tools, technologies, and systems to provide timely and relevant information for aiding strategic decision-making in financial management. For financial decision-making, decision support technologies offer a novel and promising function that extends beyond the conventional optimisation framework often considered in operations research and management science. Big data and decision analytics, distributed and real-time decision-making, decision-making under uncertainty, multi-actor and multi-criteria decisions, and other difficulties are among the emerging financial decision support concerns [28]. Therefore, the following hypotheses are developed:

H1 There is a relationship between Perceived Usefulness and the Effectiveness of Financial Processes.

H2 There is a relationship between Perceived Ease of Use and the Effectiveness of Financial Processes.

H3 There is a relationship between Perceived Usefulness and Cloud Computing Use.

H4 There is a relationship between Perceived Ease of Use and Cloud Computing Use.

H5 There is a relationship between Cloud Computing Use and the Effectiveness of Financial Processes.

H6 There is a mediating effect of Cloud Computing Use on the relationship between Perceived Usefulness and Effectiveness of Financial Processes.

H7 There is a mediating effect of Cloud Computing Use on the relationship between Perceived Ease of Use and Effectiveness of Financial Processes.

3 Research Methodology

The investigator utilized numerical research techniques in this study. This study employed quantitative research techniques, focusing on a sample of the population to generate a numeric representation of trends, attitudes, or perspectives. The researcher concludes the entire population from the sample data collected.

The population of the current study is the accountants in Jordan. The total number of accountants in Jordan is estimated to be 100,000 accountants across the country, as registered accountants in the Jordanian Association of Certified Public Accountants (JACPA) [31]. As stated in [32], the required sample size for research involving a population of 26,000 (30,000) is 379. To obtain 379 valid responses, the minimum sample size has been increased by 10% to account for unsuitable and incomplete responses, ensuring the required statistical strength is met. Consequently, the researcher sent out the questionnaire survey to 425 potential respondents, with the goal of achieving a sample size of 379 usable responses.

In this study, the development of tools was executed with meticulous care to ensure a precise reflection of reality. The questionnaire was developed with 25 items, and the variables were evaluated using a five-point Likert scale, with five indicating “Strongly Agree” and one indicating “Strongly Disagree.” Given that the respondents of the questionnaire were native Arabic speakers, it was essential to ensure precise translation from English to Arabic. To evaluate the precision of the translation in a cross-cultural survey, a back-translation was conducted, a technique frequently employed [33]. Furthermore, the validated tools presented in Table 1 were derived from comparable prior studies to assess the variables explored in this research.

To enhance transparency in the questionnaire development process, representative sample items for each construct are presented to illustrate how the adopted instruments were operationalised. For example, a sample item for Perceived Ease of Use includes “Using AIS allows for faster completion of tasks,” while a sample item for Perceived Usefulness includes “I find AIS is useful for completing tasks efficiently.” Likewise, Cloud Computing Use includes items such as “I use cloud computing to interact with AIS,” and Effectiveness of Financial Processes includes items such as “I effectively use technologies to discover key information for financial decisions.” Providing these examples clarifies the alignment between construct definitions and their operational measurement within the survey instrument.

Furthermore, the reliance on self-reported data is appropriate for this study, given that accountants’ perceptions and experiences with AIS and cloud computing are inherently subjective and cannot be captured through external observation. However, self-reporting introduces potential concerns related to

response bias and common method variance (CMV). To acknowledge and mitigate these issues, procedural remedies were incorporated, including ensuring respondent anonymity, assuring participants that there were no right or wrong answers, and separating items from different constructs within the questionnaire layout. In addition, post-hoc statistical checks, such as examining variance inflation factors (VIF) within SmartPLS, were conducted to assess potential CMV effects. These measures help reduce bias and strengthen the internal validity of the findings.

Table 1: Questionnaire Development.

Variable	No. of items	Reference
Perceived Ease of Use	5	[34]
Perceived Usefulness	5	[35]
Cloud Computing Use	5	[36]
Effectiveness of Financial Processes	5	[28], [37]

Source: created by the authors

4 Results

The suggested model has been evaluated in the present research in two stages: “the measurement model (outer model) and the structural model (inner model) assessments”. However, before proceeding with these two steps, a brief overview of the respondents' profiles is provided.

4.1 Respondent Profile

The initial section of the instrument gathered details regarding the background characteristics of the respondents, including their Gender, Age, Employment Level, and Years of Experience. Table 2 below outlines the features of each demographic profile.

Table 2. Respondent Profile.

Item	Options	Frequency	Percentage
Age	20-29	102	24.00
	30-39	162	38.12
	40-49	73	17.18
	50-59	56	13.18
	60 and above	32	7.53
Level of Employment	Accountant	311	73.18
	Finance Manager	73	17.18
	Internal Auditor	41	9.65
How long have you been working in this organisation (experience)?	0-5 years	267	62.82
	6-10 years	101	23.76
	11-15 years	33	7.76
	16-20 years	17	4.00
	21-25 years	4	0.94
	26-30 years	2	0.47
	31 years and above	1	0.24
What is your educational level?	Bachelor's degree	182	42.82
	Master's degree	174	40.94
	Doctorate degree	69	16.24
What is your firm’s type of business?	Manufacturing	64	15.06
	Retail	43	10.12
	Services	85	20.00
	Financial Services	106	24.94
	Healthcare	43	10.12
	Technology	43	10.12
	Other	41	9.65

Source: created by the authors times before

4.2 Measurement Model

To test the research model for this inquiry, Smart PLS 4 was utilized. Furthermore, an investigation was conducted concerning the measurement framework (validity and reliability of the metrics) and the structural framework (evaluating the proposed relationships within the model). As a result of this, two items, EFP3 and EFP6, exhibited low levels of factor loadings. The scores for these items were -0.066 and -0.025, respectively. It has been suggested by [38] that these values fall short of the threshold for factor loadings. As a result, a modification approach was considered during the second run, leading to the removal of EFP3 and EFP6 to achieve satisfactory levels of factor loadings. The Factor Loadings, Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE) have all met their respective thresholds, as shown in Table 3 and Figure 2 (Appendix).

Table 3. Convergent Validity.

Items	Outer loadings	CA	CR	AVE
CC1	0.750	0.836	0.884	0.604
CC2	0.722			
CC3	0.783			
CC4	0.837			
CC5	0.789			
EFP1	0.742	0.909	0.926	0.613
EFP2	0.843			
EFP4	0.844			
EFP5	0.780			
EFP7	0.776			
EFP8	0.824			
EFP9	0.702			
EFP10	0.738			
PEOU1	0.811	0.854	0.896	0.633
PEOU2	0.796			
PEOU3	0.856			
PEOU4	0.811			
PEOU5	0.697			
PU1	0.682	0.812	0.869	0.571
PU2	0.745			
PU3	0.810			
PU4	0.810			
PU5	0.724			

Source: created by the authors

The second stage of the process involved analyzing to assess discriminant validity. This examination was conducted to assess how uniquely a particular construct stands apart from other constructs. An important factor to consider when assessing validity is the relationships that exist among the variables. To assess the validity of the constructs, measures of the correlations between constructs and the square root of the average variance for each construct were utilized [39], [40]. The estimate provided by the model did not exceed 0.95, as noted in [40]. Furthermore, the model failed to yield any results that were statistically significant. Consequently, the findings from the Fornell and Larcker Criterion are presented in Table 4, indicating that no value surpasses the recommended cutoff point of 0.95 [39].

Table 4. Discriminant validity - Fornell and Larcker Criterion.

	CC	EFP	PEOU	PU
CC	0.777			
EFP	0.733	0.783		
PEOU	0.711	0.723	0.796	
PU	0.775	0.659	0.646	0.756

Source: created by the authors

Moreover, if we consider that both constructs were completely dependable or precisely evaluated, the Heterotrait-Monotrait Ratio (HTMT) offers an estimation of the true correlation between them. The HTMT can be understood as the mean of all correlations or cross-correlations among indicators that assess different constructs, in relation to the geometric interpretation of the average correlations among indicators that evaluate the same construct. The HTMT may be used to assess the discriminant validity [38]. The level of HTMT that is deemed "acceptable" in the literature is 0.90. For further details [41] (Table 5).

Table 5. Discriminant validity - HTMT

	CC	EFP	PEOU	PU
CC				
EFP	0.835			
PEOU	0.834	0.820		
PU	0.820	0.755	0.778	

Source: created by the authors

4.3 Structural Model

The structural model illustrates the theoretical or conceptual elements of the path model. The inner model in PLS-SEM is equivalent to the structural model, as noted by [38]. This model integrates the hidden variables and the relationships that exist between them. The assessment of the structural model comes after the examination of the measurement model [38], which contends that evaluating the structural model requires the completion of four distinct tasks. The phases encompass the examination of the path coefficients (step 2), the analysis of collinearity (step 4), the assessment of the coefficient f^2, and the determination of the effect size (R^2 value) [38].

Table 6 (Appendix) presents the findings from PLS bootstrapping, which includes the Beta value, t-values, p-values, results of the hypotheses (indicating support or lack thereof), confidence interval, f2, and VIF scores. Additionally, Figure 3 (Appendix) presents a summary of the findings from the structural model and PLS bootstrapping.

4.3.1 Assessment of the Structural Model for Collinearity Issues

The first step in building the structural model is to evaluate the problems associated with collinearity. Prior to executing a latent variable analysis in the structural model, it is crucial to take steps to reduce construct collinearity. The VIF has been employed to evaluate collinearity. The assessment's threshold value is established at 3.3 in accordance with the recommendations provided by [42]. Table 6 (Appendix) presents the inner VIF values for the constructs under examination. In this investigation, collinearity is not an issue as all values are below 3.3 [42].

4.3.2 Assessing the Significance of Structural Model Relationships

Table 6 (Appendix) demonstrates that the bootstrapping process was employed to produce results for each path relationship within the model. This action aimed to assess the hypotheses.

Bootstrapping in PLS is characterized as a nonparametric test involving repeated random sampling with replacement from the original sample, as noted in [43]. This test is designed to generate a bootstrap sample and compute standard errors to support hypothesis testing [38], [44] suggested performing bootstrapping using a total of one thousand samples. This pertains to the quantity of resampling samples. This examination has led to the development of nine hypotheses regarding the constructs. Utilizing the bootstrapping function in SmartPLS 4, t-statistics for all paths have been generated to assess the significance level. A one-tailed test has been established with a total of a thousand subsamples and a significance level of 0.05 for the bootstrapping method. The essential threshold for the significance level of five percent ($\alpha = 0.05$) is 1.645, derived from the one-tailed test [45].

The path coefficients exhibit a standardised range from -1 to +1, with specific values falling between 0.070 and 0.270, as detailed in Table 6 (Appendix). Path coefficients that are close to +1 suggest strong positive relationships, while values nearing zero indicate a weakening of those relationships [38]. After conducting the relationships through the t-test, it is observed that the t-values are greater than or equal to 1.645. Consequently, all of the t-value scores have achieved the approved level. The findings are summarized in Table 6 (Appendix).

4.3.3 The Coefficient of Determination (R^2)

In the next step, we will assess the predictive accuracy of the model by calculating the coefficient of determination (R^2) generated by the model. The model's ability to predict outcomes is closely tied to the R-squared value, which spans from zero to one. As stated in [38], a higher value signifies an improved level of precision in the predictions generated by the model. The R^2 value has been calculated using the Smart PLS method, with the results displayed in Table 6 (Appendix).

This study has followed the guidelines set forth by [46], which assigns the values of 0.02, 0.13, and 0.26 to indicate a weak, moderate, and substantial level of predictive accuracy, respectively [46]. This is because multiple guidelines dictate the acceptable range for R2, and this research has adhered to those suggestions. Upon examining Figure 3 (Appendix), the R2 scores for EFP are regarded as a significant level, as suggested by [46].

4.3.4 Assessment of the Effect Size (f^2)

The effect sizes, represented by the symbol f2, have been evaluated at this stage. The relationship between a predictor construct and endogenous constructs is closely linked to the value of f2. As noted in [47], it is crucial to present both the effect size and the p-value to convey not only statistical significance but also substantive significance [47]. It is also important to mention the p-value. Furthermore, a guideline set forth by [48] has been followed to assess the magnitude of the effect. [48] indicated that the values of 0.02, 0.15, and 0.35 correspond to small, medium, and substantial effects, respectively. The values presented here stem from the research findings conducted by [48]. Therefore, H1 exhibits f2 values below .15, suggesting a minimal effect size. H2, H4, and H5 exhibit f2 values exceeding 0.15, suggesting a medium-sized effect. H3 exhibits f2 values exceeding .35, suggesting a significant magnitude of the effect.

4.3.5 The Mediating Assessment

As illustrated in Table 6 and depicted in Figure 3 (Appendix), this study outlines 4 hypotheses designed to evaluate the mediating influence of Cloud computing. The analysis conducted in this study using Smart PLS revealed the following findings regarding mediating effects:

In H6, cloud computing plays a significant mediating role in the relationship between perceived usefulness and the effectiveness of financial processes, with a partial mediation level and complementary mediation. This finding indicates that managers cannot rely solely on improving users' perceptions of usefulness to enhance financial process outcomes. Instead, they must ensure that perceived usefulness is translated into actual

adoption of cloud-based AIS functionalities. Managers should therefore prioritise the implementation, activation, and continuous utilisation of cloud features within accounting systems, as these operational steps are the mechanisms through which perceived usefulness becomes organisational performance.

In H7, cloud computing plays a significant mediating role in the relationship between perceived ease of use and the effectiveness of financial processes, with a partial mediation level and complementary mediation. This suggests that even when systems are perceived as easy to use, financial improvements materialise primarily when users actively engage with cloud services. From a managerial perspective, this underscores the importance of providing training, simplifying workflows, and ensuring ongoing technical support to encourage sustained usage of cloud-based tools. By reducing barriers to cloud utilisation, managers can amplify the downstream benefits of ease of use and achieve more consistent improvements in financial operations.

Overall, the partial mediation results highlight that managers should not treat PU and PEOU as ends in themselves; the actual utilisation of cloud computing represents the critical operational channel through which these perceptions translate into enhanced financial process effectiveness.

5 Discussion

The significant relationship between perceived usefulness and the effectiveness of financial processes aligns with prior findings in the literature, where usefulness consistently emerges as a key driver of positive system outcomes. In the context of Jordanian accountants, this suggests that when users believe the AIS enhances their job performance, they are more likely to engage with it in ways that improve financial outcomes. However, the small effect size suggests that PU alone may not be sufficient to substantially enhance process effectiveness without other supporting factors, such as usability or integration. This finding reinforces the need for organisations to not only implement functional systems but also to ensure they are well-supported within the operational environment. To further strengthen the interpretation of this result, the analysis highlights that the influence of PU, although statistically significant, remains dependent on actual system utilisation patterns, suggesting that perceived performance benefits only translate into measurable improvements when embedded within supportive technological infrastructures.

The result supporting H2, with a more substantial effect than H1, highlights the centrality of ease of use in achieving financial process improvements. Unlike PU, which may reflect potential utility, PEOU directly influences whether systems are used effectively. This supports the TAM theory and is consistent with studies showing that ease of use reduces user resistance and promotes the routine use of information systems. In the Jordanian context, where digital transformation in accounting is still in development, ensuring that systems are user-friendly could be a critical success factor. This also suggests a practical implication: training and interface design should be prioritised to enhance system effectiveness. This study extends this interpretation by demonstrating that PEOU exerts a more pronounced direct effect on financial process outcomes than PU, thereby indicating that simplifying technological interaction may serve as a primary catalyst for performance enhancement in emerging economies.

The strong positive relationship between PU and cloud computing use confirms that when accountants perceive cloud-based systems as beneficial to their tasks, they are more inclined to adopt them. This finding aligns with broader research on technology adoption, which indicates that perceived performance gains are a powerful incentive for embracing cloud technologies. Given the accounting profession's demand for accuracy, efficiency, and accessibility, the perceived usefulness of cloud computing, such as real-time access and automation, likely appeals to professionals under pressure to perform. The strong effect also suggests that promoting the tangible benefits of cloud systems may accelerate their adoption in regions like Jordan, where traditional systems may still dominate. This result provides additional interpretive value by illustrating that PU acts not only as a predictor of cloud adoption but also as a mechanism through which accountants justify their transition from legacy systems to more advanced, cloud-based solutions.

The confirmation of H4 underscores that ease of use remains a critical determinant even in advanced technologies like cloud computing. Despite the innovation that cloud systems represent, their uptake still hinges on users finding them intuitive and manageable. This result supports the TAM extension into cloud-based environments and aligns with empirical studies indicating that technical complexity remains a barrier to cloud adoption, especially in developing economies. In practice, this means that vendors and organizations aiming to implement cloud systems in accounting departments must focus on reducing perceived complexity and providing

user-friendly interfaces and support. The finding further strengthens TAM's applicability by illustrating that PEOU retains its explanatory relevance even when examining contemporary, distributed technologies, thereby extending the theory's boundary conditions to cloud-based financial environments.

The positive relationship between cloud computing use and financial process effectiveness supports the notion that technology adoption yields performance benefits when utilised effectively. This reflects findings in prior literature where cloud computing enabled better data management, reduced delays, and improved accuracy in financial operations. In the Jordanian accounting context, this suggests that integrating cloud solutions can offer measurable improvements in process efficiency and control. Notably, this relationship lends empirical support to arguments advocating for cloud systems not only as IT innovations but also as strategic enablers of operational effectiveness in financial functions. This interpretation provides additional insight by clarifying that cloud usage operates as a performance amplifier within AIS environments, meaning that the integration of cloud features is instrumental in unlocking the full operational value of AIS implementations.

The mediation effect found in H6 reveals a critical mechanism: the positive impact of PU on financial process effectiveness is channelled through the actual use of cloud systems. This finding contributes to theoretical refinement by demonstrating that PU does not directly enhance process outcomes unless it leads to the adoption of suitable technological tools. It supports process-based perspectives in IS research, where perceived benefits must be translated into actual usage to create real value. Practically, this highlights that simply recognising a system's usefulness is not enough; organisations must ensure that this perception leads to actual system implementation and integration. This mediation also highlights an original contribution of the study: it demonstrates that cloud usage acts as the functional bridge through which perceived usefulness influences financial operations, thereby identifying a previously underexplored mechanism in TAM–cloud computing models.

Finally, the mediation effect in H7 suggests that ease of use leads to financial improvements primarily by encouraging the use of cloud systems. This aligns with a usage-oriented view of technology adoption, where PEOU reduces barriers and anxiety, thereby increasing the likelihood of sustained use. The implication is that user-friendly systems act as gateways to deeper digital transformation, which in turn improves operational outcomes. In settings like Jordan, where digital literacy and infrastructure may vary, focusing on system simplicity may have amplified downstream effects by enabling more consistent and effective cloud adoption across the accounting sector. This mediated pathway extends TAM by showing that ease of use facilitates performance improvements indirectly through cloud adoption, thereby revealing a novel structural relationship that strengthens the originality of the model.

This study's main contribution lies in its integration of the TAM with cloud computing use to explain how perceived usefulness and perceived ease of use influence the effectiveness of financial processes among accountants in Jordan, with cloud computing acting as a key mediating factor. This integration advances the theoretical contribution by demonstrating that TAM's core constructs remain predictive when extended to cloud-based environments and when linked to financial performance indicators, an area that has received limited empirical attention. The main implication is that organisations aiming to improve financial processes must go beyond implementing functional systems; they must ensure these systems are both user-friendly and cloud-enabled to drive actual performance gains. Furthermore, the study introduces an original contribution by empirically validating a cloud-mediated model of financial process effectiveness in a developing country, addressing a gap in the literature where such contexts remain underrepresented. Future research should expand the model by including organisational and environmental factors, exploring cross-industry comparisons, or examining longitudinal effects of cloud adoption on financial outcomes. Overall, the study concludes that technology perceptions alone are insufficient without actual cloud usage, highlighting the critical role of adoption behaviour in translating technological potential into real operational effectiveness. These insights collectively enhance both the theoretical and practical value of the study, positioning it as a meaningful addition to the evolving discourse on AIS, TAM, and cloud-enabled financial performance.

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

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Conflict of Interest

The authors have no conflicts of interest to declare that are relevant to the content of this article.

APPENDIX

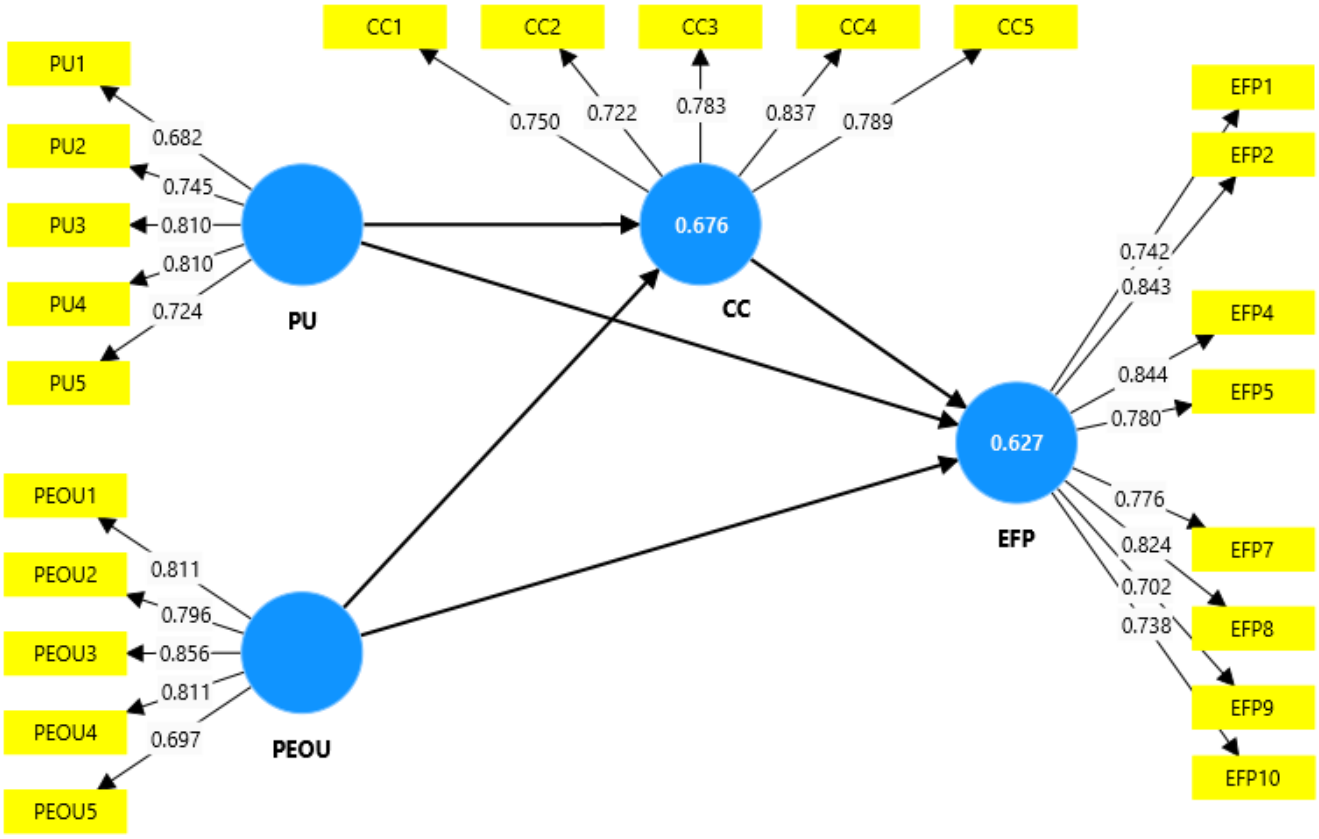

Fig. 2: PLS Algorithm Results
Source: created by the authors

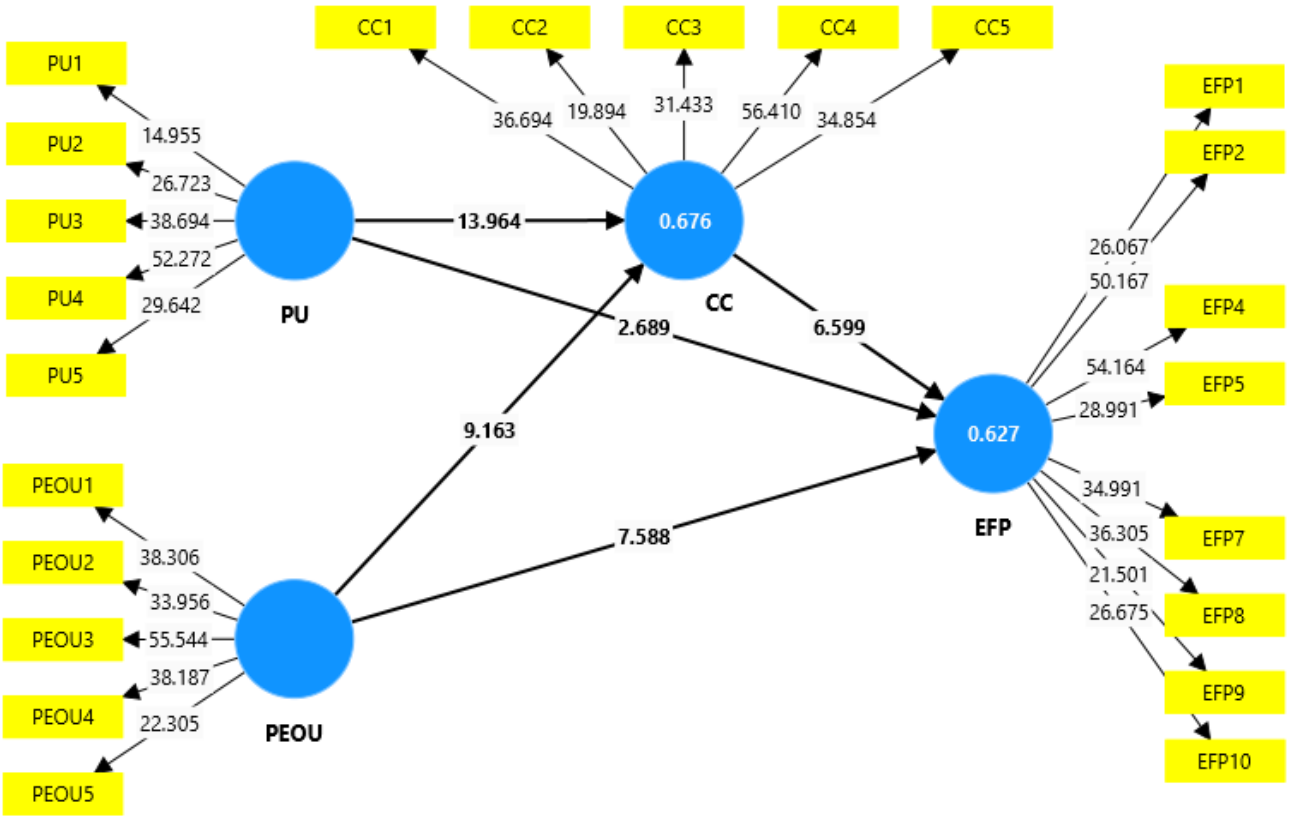

Fig. 3: Structural Model (PLS bootstrapping)
Source: created by the authors

Table 6. Summary of Structural Model (PLS bootstrapping)

H	Path	Beta	STD error	T-value	P-values	Confidence interval		f-square	VIF	R-square
						5.00%	95.00%			
H1	PU -> EFP	0.136	0.050	2.689	0.004	0.056	0.222	0.059	2.623	0.627
H2	PEOU -> EFP	0.382	0.050	7.588	0.000	0.295	0.460	0.184	2.119	
H3	PU -> CC	0.542	0.039	13.964	0.000	0.474	0.602	0.527	1.718	
H4	PEOU -> CC	0.361	0.039	9.163	0.000	0.299	0.430	0.234	1.718	
H5	CC -> EFP	0.357	0.054	6.599	0.000	0.266	0.445	0.161	1.086	
H6	PU -> CC -> EFP	0.194	0.032	5.981	0.000	0.141	0.249			
H7	PEOU -> CC -> EFP	0.129	0.024	5.346	0.000	0.092	0.171			

Source: created by the authors