The adoption of cloud accounting information system in Jordanian financial firms: Influencing factors

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ABSTRACT

The advent of cloud accounting is a relatively recent development that has had a significant impact on the operation of financial companies. Within this framework, there is a paucity of information regarding the elements that may influence the adoption of cloud accounting information systems. This study builds an effect model based on the information system success theory, and then experimentally evaluates it with data from 391 employees working in Jordanian financial organizations using structural equation modeling (SEM). The results of these tests are presented. It was discovered that concepts such as perceived utility, information quality, system quality, and service quality had an effect on the adoption of cloud accounting information systems.

Keywords:
Accounting information system
Cloud accounting information system
Information system success theory
Technological factors

1. Introduction

Due to the dynamic changes and challenges in the business environment, information and communication technology (ICT) is widely used by businesses of all sizes around the world (Batrık, Gencer, & Akkucuk, 2022; Thimm & Rasmussen, 2022). Financial firms are examples of such businesses, as they are continually faced with logistical determinants and obstacles in comparison to larger businesses. The smaller number of employees and lesser budget allocation of financial firms have been blamed for these difficulties (Das, 2022; de Beer & Keune, 2022). Even though their demand experiences are similar, this condition makes their computer environment less complicated than that of major corporations (Celo & Lehrer, 2022; Vrontis et al., 2022). As a result, financial firms must urgently improve their service levels in order to fulfill their objectives in terms of regulating, monitoring, cost reduction, material procurement, inventory control, and resource use. Financial firms are expected to use activities that match their Information Technology (IT) department's needs (Cui, Tong, & Tan, 2022; Tripathi, 2022). Clearly, Financial firms have begun to use accounting information systems (AIS) to increase their market competitiveness, reduce expenses, improve management, deliver better services, improve management functionality, and create fewer errors (Lutfi, 2022; Thuan et al., 2022). An information system (IS) or IT tool that supports financial and accounting data collecting, storage, and processing for management to make decisions is referred to as an AIS (Setiawan, Dewianawati, Sutikno, & Nuraeni, 2022). In Financial firms, the AIS promotes coordination across diverse units of function, and literature has revealed the necessity for IT support in business processes (Li & Fang, 2022). In other words, financial firms require the adoption of AIS in order to achieve higher levels of competence and efficiency. Traditional AIS implementations have flaws that businesses must overcome, such as costly licensing and software package installation costs; this is especially true for financial firms (Elshibani, 2022). Many factors contribute to the complexity of traditional AIS packages, including the structural make-up that includes hardware costs and maintenance, the lack of IT infrastructure, lack of IT specialists to ensure smooth implementation, and a limited budget for IT in the enterprise. Financial firms are therefore unlikely to use these packages (Mitsos, Beligiannis, & Kontogeorgos, 2022).
As a result, it is more possible and cost-effective to use a needed premise instead of conventional AIS. Cloud accounting information systems have revolutionized the AIS industry since its debut, allowing firms to employ third-party hosting of IT resources and applications via virtual means rather than physical methods (Chen & Metawa, 2022). As a result, consumer PCs and data storage on local servers do not require software modules, resulting in fewer hardware investments and expenses (Sultan, 2010). Furthermore, the cloud accounting information system is a technology that uses solid-state discs instead of traditional hard discs to save electricity (Sultan, 2010). Additional advantages of cloud accounting information system include the ease with which companies can acquire economically priced, high-performance data processing, real-time collaboration, and expanded accessibility to information systems (Ghoﬁrin & Primasari, 2022). Because cloud accounting information system implementation provides a platform for both the client firm and the accountancy firm to work together on procedure and data, it is certain to have a significant impact on accounting settings. According to Ng, Lau, Ghobakhloo, Fathi, and Liang (2022) in a related study, cloud facilities are attractive to financial firms with limited resources and experience since they are economical and adaptable. These amenities have been highlighted by Vinoth et al. (2022) as critical to increasing corporate productivity and competitiveness. It is possible to see cloud accounting information systems as a cheap alternative for financial firms to use in place of conventional AIS.

Cloud accounting information system adoption has been studied extensively in the literature, but few studies have looked at it from a comprehensive perspective that takes into account organizational and technological factors all at the same time (Setiawan et al., 2022; Thuan et al., 2022; Vinoth et al., 2022). Cloud accounting information system adoption decisions among financial firms in developing economies are still being influenced by logistical issues that are not well understood (Lutfi, 2022). As the engine (and lifeblood) of economies, financial firms have drawn considerable attention from cloud computing providers and suppliers. Financial firms account for the majority of companies in developing nations, including Jordan. Cloud systems such as cloud accounting information systems, on the other hand, have enormous promise for financial firms in developing nations like Jordan. In spite of this, there is a dearth of research into the logistics of cloud-ERP implementation. There are also significant issues with ICT implementation culture in financial firms, including a lack of knowledge about cloud accounting information systems, which prevents them from enhancing their competitive positions (Lutfi, 2022). Therefore, research on small and medium-sized enterprises (SMEs) is needed to address this vacuum and create a culture of cloud accounting information systems implementation in these firms. To the best of the author's knowledge, no research has been done on the factors that influence the adoption of cloud accounting information system in Jordanian financial firms. Financial firms in Jordan are the focus of the current study due to the sector's prominence and role in spurring economic growth.

This study adds to the body of cloud computing research already available. Its primary goal is to investigate the adoption of cloud accounting information systems by Jordanian financial firms and determine the main factors that influence such acceptance. It helps SME owners and managers because they have a clear understanding of the crucial role that cloud accounting information systems adoption plays in improving productivity, competitiveness, and performance in their industries. Last but not least, the findings of this research shed light on the critical role that cloud accounting information system adoption plays in financial firms.

The rest of this paper is structured as follows. Section 2 introduces the theoretical framework and the development of hypotheses. Section 3 goes over the study's methodology. Section 4 presents the findings of data analysis and interpretation. The discussion is illustrated in Section 5. The final section discusses the study's conclusions, limitations, and future research.

2. Theoretical Background and Hypothesis Development

This research presents a conceptual framework that can be implemented to help support and improve the adoption of cloud-based accounting information systems. It is connected with the concepts, empirical research, and significant theories that were utilized to discover and systematize the knowledge that was utilized in this study (Mitrega, Klézl, & Spáčil, 2022). The conceptual framework provides an explanation of the factors, such as technological factors, that influence the adoption of cloud accounting information systems to support business continuity. The main focus of the framework is on the support of users' knowledge and intention to adopt cloud accounting information systems. The development of indicators that can be utilized in the process of evaluating the adoption of cloud-based accounting information systems in Jordan's financial sector is facilitated by the conceptual framework that has been proposed. As a result of this research, the conceptual framework for cloud accounting information system adoption has been improved by the use of the IS success model, which will clarify users' perceptions in the financial sectors on new adoption initiatives. Because it examines organizations' adoption behavior via an occupying technology dimension that includes factors that influence the adoption, the IS success model is regarded as an appropriate conceptual framework for comprehending the adoption of cloud accounting information systems. This is due to the fact that the model includes factors that influence the adoption. Indicators of the efficacy of accounting information systems include the quality of the information, the quality of the system, and the quality of the service. There is a correlation between the output of information systems and the quality of the information.
2.1 Perceived Usefulness

TAM uses trust, behavior, and perceived usefulness to forecast consumer acceptance. Because of the perceived impact, the user will expect that the system will have an impact on performance, and the complexity of a system will no longer be a barrier to users. The perceived utility of information has a significant impact on the achievement of a regional financial information system (Arghashi & Yuksel, 2022). Perceived Usefulness (PU), according to Bansah and Agyei (2022), is the degree to which decision-makers believe that implementing a certain technology will improve the organization's performance. TAM also hypothesizes that PU has a direct impact on behavioral intention to adopt a specific IT or IS (Humida, Al Mamun, & Keikhosrokiani, 2022; Stylios, Kokolakis, Thanou, & Chatzis, 2022), which is supported by previous research. PU has been studied extensively in light of varying IT and IS adoption and has been found to be favorable and substantial in the adoption. Thus, this paper formulates the following hypothesis for testing.

H1. Perceived usefulness has a positive influence on cloud accounting information system adoption.

2.2 Information quality

According to Ibrahim, Gulihana, and Susanto (2022), information is defined as data that has been managed and processed to provide meaning and improve the decision-making process. This definition of information is superior to the requirements and quality of improving information. Information can be improved by managing and processing data. According to Alzahrani, Al-Samarraei, Eldenfria, Dodoo, and Alalwan (2022), there are three factors that go into the measurement of the quality of information. These dimensions include time, content, and form. The output of information systems is what determines the information's quality, which is measured by information quality. The quality of information comprises aspects such as understandability, legibility, clarity, format, unusualness, the accuracy of information, accuracy, reliability, correctness, importance, and uniqueness. The level of comprehensive support provided by the service provider is what determines the interaction quality of information systems services. These kinds of support services are, almost always, either contracted out to a third party or provided by an internal information system (IS) department or an Internet service provider (Labunksa, Zyma, & Sushchenko, 2022). Both responsiveness and assurance have been called out as crucial components of the interaction quality of e-technology (Hoang, Truong, & Kumar, 2022), and this has been acknowledged in the literature. Information system theory also hypothesizes that information quality has a direct impact on behavioral intention to adopt a specific IT or IS (Kim, 2022; Zhang, Wang, Wan, Zhang, & Zhao, 2022). Thus, this paper formulates the following hypothesis for testing.

H2. Information quality has a positive influence on cloud accounting information system adoption.

2.3 System quality

The occurrence of system variety is the phenomena known as system quality. When evaluating the quality of its information technology system, the variety of the system is one of the metrics that is evaluated. According to Alkhawaja, Abd Halim, Abumandil, and Al-Adwan (2022), the quality of a system is determined by the interactions that occur between websites and users. Evaluating different types of information processing systems falls under the purview of system quality. The updating of data, the accuracy of the system, the efficiency of the system, the usage of resources, the usability of facilities and functions, the convenience of accessing the system, and the response time are all components of system quality. The quality and usefulness of an information system was what DeLone and McLean (1992) meant when they defined "system quality." It demonstrates the information system's accessibility, responsiveness, reliability, flexibility, efficiency, and convenience. Additionally, it demonstrates the information system's adaptability and efficiency (Ebru et al., 2022). At some point in the future, good system quality will provide a suitable usage situation in which individuals will be able to expertly identify the practical functions of the information system and explore the resources that the information system delivers in an effective manner. The quality of the system, in general, was demonstrated to have beneficial effects on the overall adoption and acceptance of IS (Ulhaq, Pham, Le, Pham, & Le, 2022). According to the previous studies, this research formulate the following hypotheses;

H3. System quality has a positive influence on cloud accounting information system adoption.

2.4 Service quality

The level of user control over the system, the level of user trust in the system, new hardware upgrades, hardware standardization, a positive attitude of support staff towards users, the cost-effectiveness of information systems, and the level of user training are all related factors that affect service quality (Afshari, Bakar, Luan, Samah, & Fooi, 2009). According to the definition offered by Watini, Nurhaeni, and Meria (2021), service quality can be described as "the entire assistance provided by the service provider, such as the ICT department, or a specific unit in an organization". Help desks, hotlines, and other forms of online support may be included in information technology support services; however, this is not an exhaustive list (Tamilmani, Rana, & Dwivedi, 2021). A significant amount of empirical research (Rahi, Khan, & Alghizzawi, 2021; Shen & Yahya, 2021) has found that the service quality offered by the staff of information services departments is an essential
factor in the acceptability of information systems applications. Rahi et al. (2021) assessed the level of service provided by looking at various factors connected with empathy, dependability, and responsiveness. Nevertheless, the study takes into account the quality of the technical support as a primary indicator of the dimension of service quality. According to Mailizar, Burg, and Maulina (2021), the construct of service quality may be viewed as a critical component in mapping instructors' behavioral attitudes toward system adoption. As a result, the adoption system is directly impacted by factors such as adequate and effective technical support, high-quality service, and the availability of training tools (Alazab, Alhyari, Awajan, & Abdallah, 2021; Zhou et al., 2021). Thus, this paper formulates the following hypothesis for testing.

H4. service quality has a positive influence on cloud accounting information system adoption.

2.5 Methodology

The questionnaire used to collect the data for this study was administered online on the platform Survey Monkey between the months of January and April of 2022. The sampling method used was a non-probability convenience sample. The completion of the questionnaire took around 10 minutes of someone's time. To eliminate any possibility of misunderstanding, each component of the model was presented on its own individual page, and the items that comprised each construct were evaluated using a Likert scale with five possible responses, ranging from "strongly disagree" to "strongly agree". Both multicollinearity and common method bias were investigated, and both were shown to not be a concern after being evaluated. All of the methodological fixes that F. Kock, Berbekova, and Assaf (2021) recommended implementation, such as elaborating on the significance of the questions, removing any ambiguity regarding their meaning, and guaranteeing respondents' anonymity and confidentiality at every stage of the survey. There was a total of 450 questionnaires made available via the internet, and there were 391 responses deemed to be legitimate. The questionnaires that were filled out in their whole generated a response rate of 86%. The majority of the respondents are between the ages of 30 and 39 (44.5 percent), and they are constantly head of departments (48.2 percent). The proportion of male respondents is 62.3%, while the proportion of female respondents is 37.7%. Single factor test was carried out to validate that the survey did not include any Common Method Variation. According to the findings, only 37.74 percent of the variance could be attributed to a single factor, which is lower than the cutoff level of 50 percent for the total explained variance (N. Kock, 2015). These researchers found that the threshold level for the total explained variance was 50 percent. The findings were analyzed in SPSS with the single factor constraint of the factor analysis technique. In order to make the constructs and items more applicable to the current study, adaptations were made from earlier research. The measurements that were used in this study were drawn from earlier studies that were connected to the adoption information system. There were 4 items for the perceived usefulness that were adapted from Ventre and Kolbe (2020) and (Caffaro, Micheletti Cremasco, Roccato, & Cavallo, 2020). The construct for the system quality was measured using 4 items; the information quality was measured using 3 items; the service quality was measured using 4 items. Both of these conceptual frameworks were derived from the work of Phuong and Dai Trang (2018) and Purwanto, Zuiderwijk, and Janssen (2020). The adoption of cloud accounting information systems were measured using 5 items that were adapted from Egiyi and Udeh (2020) and Aini, Anoesyirwan, and Ana (2020). The validity of the questionnaire was confirmed through the use of a pilot test, which was carried out in January 2022 and involved a total of one hundred respondents. The initial data from the pilot test were utilized to conduct factor analysis, and since the factor loadings of the items were higher than 0.7, no adjustments were done to the model. The summary findings of the pilot test revealed that the instrument possessed sufficient levels of reliability as well as validity. As a direct consequence of this, the questionnaires and the items for the measurement were kept for use in the actual collection of data. PLS-SEM was used in this investigation to assess the proposed research model so that the authors could simultaneously explain and forecast the structural interactions among the independent variables, mediator, and the dependent variable (Matthews, Hair, & Matthews, 2018). The two-step methodology, which was advocated by Anderson and Gerbing, was utilized in the performance of the analysis (1988). After determining whether or not the suggested procedural fixes improved the reliability and validity of the measurement model, the next step was to evaluate the structural model and put the hypotheses to the test by employing a bootstrapping methodology. When executing the PLS-algorithm, the settings that were proposed by Hair et al. (2017) were applied, and as a result, a path-weighting scheme was adopted to follow a standard data metric. Additionally, the value of the highest possible number of iterations was determined to be 500.

3. Result

3.1 Measurement model testing

At this point in the process, four different evaluations were put through convergent and discriminant validity tests. These evaluations included; factor loadings, Average Variance Extracted (AVE), Composite Reliability (CR), and Discriminant Validity. Average Variance Extracted (AVE) examines the average amount of variance that is extracted from a dataset (see figure 1). All of the items had values that ranged between 0.708 and 0.923 when it came to the indicator loading, which was higher than the recommended value that had been suggested by (Matthews et al., 2018). The AVE values were significantly higher than the threshold of 0.5, ranging from 0.594 to 0.803. Following that, the CR values ranged from 0.850 all the way up to 0.924, which was higher than the recommended value of 0.70 (Matthews et al., 2018). The high values for CR demonstrated that there was a high level of consistency within the system. As can be seen in Table 1, the measurement model indicated that the instrument possessed acceptable levels of convergent validity as well as discriminant validity.
Fig. 1. Measurement model testing

Table 1
Measurement model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Code</th>
<th>Factor loading</th>
<th>Cronbach's Alpha</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness</td>
<td>PU.1</td>
<td>0.795</td>
<td>0.802</td>
<td>0.869</td>
<td>0.624</td>
</tr>
<tr>
<td></td>
<td>PU.2</td>
<td>0.782</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>PU.3</td>
<td>0.722</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PU.4</td>
<td>0.854</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information quality</td>
<td>InQ.1</td>
<td>0.889</td>
<td>0.738</td>
<td>0.850</td>
<td>0.656</td>
</tr>
<tr>
<td></td>
<td>InQ.2</td>
<td>0.818</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>InQ.3</td>
<td>0.713</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System quality</td>
<td>SQ.1</td>
<td>0.873</td>
<td>0.879</td>
<td>0.917</td>
<td>0.734</td>
</tr>
<tr>
<td></td>
<td>SQ.2</td>
<td>0.879</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SQ.3</td>
<td>0.849</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SQ.4</td>
<td>0.824</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service quality</td>
<td>SRQ.1</td>
<td>0.853</td>
<td>0.877</td>
<td>0.924</td>
<td>0.803</td>
</tr>
<tr>
<td></td>
<td>SRQ.2</td>
<td>0.923</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SRQ.3</td>
<td>0.911</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cloud accounting information</td>
<td>BA.1</td>
<td>0.769</td>
<td>0.831</td>
<td>0.880</td>
<td>0.594</td>
</tr>
<tr>
<td>system adoption</td>
<td>BA.2</td>
<td>0.777</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BA.3</td>
<td>0.794</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BA.4</td>
<td>0.708</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>BA.5</td>
<td>0.803</td>
<td></td>
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</tr>
</tbody>
</table>

3.2 Structural model testing

Due to the fact that the measurement models were good, this study was able to advance to the next level of the structural analysis. The appropriateness of the structural model in PLS-SEM was determined based on the level of significance of path coefficients (Hair Jr et al., 2021). In order to determine whether or not the path coefficients have statistically significant relationships, the bootstrap resampling method was used on 5000 data points. In order to determine the size of the coefficients, the PLS algorithm was utilized. The results of the testing of the hypotheses are presented in Table 2.

Table 2
Structural analysis results

<table>
<thead>
<tr>
<th>Hypothesis Number</th>
<th>Path</th>
<th>Original Sample (O)</th>
<th>T Statistics (O/STDEV)</th>
<th>P Values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Perceived Usefulness → cloud accounting information system adoption</td>
<td>0.098</td>
<td>4.907</td>
<td>0</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>Information quality → cloud accounting information system adoption</td>
<td>0.02</td>
<td>3.291</td>
<td>0</td>
<td>Supported</td>
</tr>
<tr>
<td>H3</td>
<td>System quality → cloud accounting information system adoption</td>
<td>0.064</td>
<td>6.183</td>
<td>0</td>
<td>Supported</td>
</tr>
<tr>
<td>H4</td>
<td>Service quality → cloud accounting information system adoption</td>
<td>0.453</td>
<td>8.835</td>
<td>0</td>
<td>Supported</td>
</tr>
</tbody>
</table>
Within the scope of this study, there is one endogenous construct. The cloud accounting information system adoption has an R² value of 0.266, which indicates that perceived usefulness, information quality, system quality, and service quality each explained 26.6 percent of the variance in the adoption of the cloud accounting information system. The findings demonstrated, with reference to the hypotheses (referee table 2), that all of the values have a significant positive effect on the adoption of cloud accounting information systems. Therefore, H1, H2, H3, and H4 are validated by the model that has been proposed.

4. Discussion and conclusion

The findings demonstrated PU to be a strong driver of cloud accounting information system adoption among Jordanian financial firms, In contrast to (Afshari et al., 2009; Alkhawaja et al., 2022; Arghashi & Yuksel, 2022; Bansah & Agyei, 2022; Hoang et al., 2022), who concluded that enterprises are uninformed of the value and benefits of utilizing information quality, system quality, and service quality system. The recent study backs up financial firms' focus on the systems' potential benefits, which include developing new business prospects, lowering IT/IS costs, increasing productivity, and improving operational efficiency. Traditional systems and technologies are incapable of providing such advantages. Moving on to information quality, system quality, and service quality system, the findings revealed that it prevents cloud accounting information system adoption among Jordanian financial firms, which is consistent with previous research on the acceptance of technology-based services (Köhnen, Kriston, Härter, Dirmaier, & Liebherz, 2019). In other words, information quality, system quality, and service quality system may stymie adoption intentions and may even preclude adoption among financial firms. To secure cloud accounting information system adoption among financial firms, information quality should be considered. Potential adopters should be worried about information quality, system quality, and service quality. Providers of cloud accounting should be aware that a lack of information quality continues to be a barrier to cloud accounting adoption.

The study's key contribution is the presentation of a conceptual model that depicts the impact of technological factors on cloud accounting information system adoption. Overall, the study found that empirical testing validated 4 proposed hypotheses, indicating that major portions of the generated theoretical correlations could be empirically verified. In light of this, the model provides a general understanding of the consequences of cloud accounting information system adoption, and how technological factors can affect. The findings demonstrate that the perceived usefulness, information quality, system quality, and service quality system enhances the characteristics of cloud accounting information system adoption.

Nevertheless, we recognize that the effect model that was proposed can really only help understand the fluctuations in endogenous variables; therefore, we are sure there are probably additional factors that influence the adoption of cloud-based accounting information systems. Because of this, we consider the presentation of the framework to be the primary contribution made by this study. There are significant restrictions regarding the data gathering, the sample size, and the capacity to generalize the results. The study, despite its careful conceptual and methodological development, nonetheless has considerable limitations. To begin, we only polled a small sample size of the financial companies that were serviced by a specific supplier, which introduces the possibility of bias into our selection of companies. Therefore, the samples used in further research should try to be larger, and the scope of the study should be expanded to include other communities, countries, cultural traditions, and ethnicities. Second, given that the scope of our investigation was limited to a single epoch of time, we strongly recommend that additional research be carried out in order to validate and extend the results of our investigation. Thirdly, it is important that future study concentrate on a variety of industries in order to acquire a more nuanced understanding of the significance of data protection and privacy issues. There is still a dearth of study on other aspects that impact the adoption of cloud accounting, such as the usefulness of the system, how easy to use, and system use.

References


