

Article

Strategies for Developing the Government Accounting System in Light of Digital Transformations in Government Units

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Abstract: Digitalization has reshaped business practices, positioning digital accounting as a key trend in government financial management. Despite its growing adoption, limited research has explored its specific impact on the accuracy and efficiency of government accounting systems. This study aims to evaluate the effectiveness of digital accounting tools and their integration with cloud computing strategies in the public sector. Secondary data from prior research were analyzed, focusing on ratings and user feedback on digital accounting applications concerning time-saving, cost-effectiveness, and ease of use. The findings reveal a positive relationship between digital accounting adoption and enhanced accuracy and efficiency in government financial operations. The study underscores the potential of digital tools to streamline government accounting processes, reduce time wastage, and improve overall performance, offering practical implications for policymakers and financial managers.

Keywords: Digital accounting strategies, Cloud computing, Automation, Digital transformation, Government Accounting, Accountability, Transparency



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1. Introduction

Previously, manual accounting systems were used where accountants recorded the transactions manually. Such kind of accounting systems frequently result in errors or delayed information. By keeping in view, these systems were not considered effective in decision-making. To increase business efficiency and competitiveness, companies develop their accounting systems by using information technology to replace manual accounting systems.(Popesko et al., 2017). By using this approach, the accountants were able to get timely, reliable, and accurate accounting information.

Different organizations compete with other organizations for the sake of profit by developing different digital accounting strategies in the firms they operate. With the increase in digitalization and technological development, these strategies have started to be operated even more by various companies (Spilnyk et al., 2022). That's why, digital transformation in accounting is among one of the most basic functions operating within the organization. Digital accounting has been the most effective accounting tool. Moreover, an innovation in accounting is important. (Anastasiia, 2018).

It cannot be denied how important the use of software in accounting is For a business to be successful, it is necessary to digital software (Begum, 2019). Previously a researcher has suggested

three ways for developing accounting software for an organization. 1) development of personal software within an organization. 2) a company purchases software that is already available in the market. 3) The company fulfills its accounting needs from outsources. Valuable developments in digital literacy and information technology provide a huge change in the companies' economy through rapid and effective data utilization and analyzing systems (Al-Okaily et al., 2022). To increase the understanding of various education systems, accounting, and finance it is important to work through digital technology. Companies should find new or innovative methods to preserve high-quality work effectively and efficiently (Chanthinok and Sangboon, 2021).

Many strategies have been used by the companies. Cloud accounting is the most popular among all. It is anticipated to make an easy and durable availability of accounting records. Cloud accounting is much more economical compared to the traditional accounting software used to collect data. It has crucial time saving concerning the companies. It is one of the most emerging fields in accounting history (Wang, 2023). It is a software where data can be easily accessed by anyone at a given period with the help of a device mainly connected to the internet. Most businesses all over the world utilize this strategy in cloud accounting there. With the help of cloud accounting, managers can easily access real-time financial information in a short duration. It helps their organization to work in an organized way for decision-making. (Alnaimat et al., 2024)

For the government sector, it is crucial to be competitive in the intense market. Therefore, technology and digital transformation is an inevitable factor that helps in the government sector. to maintain their effectiveness and competitiveness (Deshmukh, 2006). Especially, in accounting systems. Digital accounting software is an important tool to gather information for making decisions. That's why the study would help researchers to find a guide to develop digital accounting software as an estimate of the income that would be invested. In government sectors, due to the increased workload, there is a chance of error to be developed (Almhdi et al., 2021). To prevent such kind of mishappening by the accountants the digital accounting system should be established in government sectors. This not only helps to increase the efficiency but also the accuracy of the accounting department. T (e.g. digital government or digital business) has become a powerful medium for public organizations that interact with many stakeholders. They have the potential to market products and services, communicate information to a global community and provide an electronic web for communications and process business transactions (Fink and Laupase, 2000).

Thus, digital government or digital business requires a change in significant business processes and accounting systems to provide extensive services (Burn and Robins, 2003). A new environment is emerging where organizations must work together to establish online networks of systems, stakeholders and value-added processes (Ticoll et al., 1998). The government, especially customs and tax organizations, yet with few exceptions, have appeared late on the scene. Nevertheless, the drive is currently on for radical government change. The reinvention of the public sector has been accelerated by the change toward online financial services and new public management (NPM) ideas (Darayseh and Alsharari, 2022; Sprecher, 2000; Burn and Robins, 2003). The related literature has given little attention to studying the association between digital accounting systems and IT expansion.

This study aims to explain the mutual interaction between digital accounting systems and IT in Jordan Customs (JC). The main research question for this is T (e.g. digital government or digital business) has become a powerful medium for public organizations that interact with many stakeholders. They have the potential to market products and services, communicate information to a global community and provide an electronic web for communications and process business transactions (Fink and Laupase, 2000). Thus, digital government or digital business requires a change in significant business processes and accounting systems to provide extensive services (Burn and Robins, 2003). A new environment is emerging where organizations must work together to establish online networks of systems, stakeholders and value-added processes (Ticoll et al., 1998). The government, especially customs and tax organizations, yet with few exceptions, have appeared late on the scene. Nevertheless, the drive is currently on for radical government change.

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Literature Review

Digital accounting has gained importance in this world because it not only helps accountants in data storage and management but also provides accuracy in terms of usage and storage (Kruskopf et al., 2019). Traditionally, accountants utilize simple accounting techniques, which almost always result in huge errors. But now, the government has changed strategies, especially in government sectors to implement digital accounting systems. Resulting in greater benefit with little loss. Previously many research papers have been published to evaluate the effectiveness and accuracy of digital accounting (Naranjo-Gil, 2004). A study has discussed the idea of digitalization in higher education sectors to adjust their academic and non-academic accounts.

Another study was performed to demonstrate that digitalization has led to a significant change in accounting and financial management for the development of innovative ideas that would help organizations attain heights in minimum time. The study aimed to analyze digital accounting development in higher education. The study uses IBM SPSS statistics (Alimova, 2024). In this study development life cycle method was adopted and the latest financial accounting methods were applied. Data was analyzed by descriptive statistics, multiple regression, and correlation analysis. The results of the study show a positive correlation between digital accounting and financial performance. (Seseli et al., 2023)

Another study was performed on the implantation of the cloud computing system (Gonçalves et al., 2022). The study develops the cloud computing system for comparison with the previous strategies to improve accounting management. The results of the study suggested that the offered cloud computing system is of great importance compared with traditional accounting services. (Alnaimat et al., 2024)

Another study was performed by Mahanam in which he categorized the main factors against cost-effectiveness. Those factors were posting methods, ledgers and journals, audit trials, data flow modules, reporting capabilities, user documentation, support, and ease of flexibility in use. In this study, a questionnaire was used for processing data (Sanjaya et al., 2021). The study also entails the software packages used by the companies which were Express, Easy Account, and Financial reports. The author also suggested that most authors have no issue with these methods. (Seseli et al., 2023).

Similarly, a study was performed to analyze the usefulness of digital accounting systems in

COVID (Jasim and Raewf, 2020). The study utilizes the self-administered questionnaire and the primary data was calculated. The findings reveal that for a digital accounting system to be established top management support and government support are of great importance. The implementation of which in turn provides positive benefits. The study states that COVID-19 has a major role in digital accounting systems performance (Mancini et al., 2017). Moreover, the study also finds a way to enhance the optimal performance between digital accounting and accuracy. The study also demonstrates the various ways through which an organization can enhance the digital accounting system's performance. (Lutfi et al., 2022). Moreover, a study was performed to evaluate the effect of digital accounting on the sector. The study utilizes three case studies to meet the objectives' qualitative and exploratory research was done. Additionally, the paper contributes more understanding of the role of accountants and accounting in the context of that digital era (Gonçalves et al., 2022).

Research Questions:

The following questions will be addressed in this study

1. What type of digital tools can enhance the accuracy and efficiency of government accounting
2. How do digital transformations affect accountability and transparency in government reporting?

Objective of the study:

The objective of the study is to develop a digital accounting strategy on a cloud system along with the effectiveness of these digital accounting strategies implementation in the government sector. The effectiveness and accuracy of various digital accounting applications are of main concern.

2. Materials and Methods

The study was done for the development of strategies for digital accounting specifically cloud computing digital accounting systems. The study utilizes secondary data to evaluate the effectiveness and accuracy of digital accounting applications. (Sarawagi et al., 2024). For this purpose, data was collected by reviewing previous articles. Moreover, the current study also demonstrates the methodology for the development of Cloud computing accounting strategy within a government sector. The model includes the requirement phase, analysis phase, design phase implementing phase, testing phase, and the system maintenance phase.

Requirement Phase:

In this phase, it is accessed there is a need for accounting software, and the information is gathered. Here in this research, we focused on the information obtained from the organization in which the software is to be developed.

Analysis Phase:

After carefully analyzing the system by observing and studying related to the accounting and digital transformation. After reviewing the literature, it was analyzed that there are problems in manual accounting, so by developing a cloud system, the issue can be resolved easily.

Design Phase:

This phase of system development includes an ER- diagram and flowchart. This phase draws a rough figure of the system to be developed.

Implementation Phase:

This phase implements the process by creating MySQL database, and applications based on the system design stage. The program was coded by Adobe Dreamweaver version 20.2 to upload applications or files on the cloud service.

Testing Phase:

Functional assessment of the developed software is accessed in this phase. The test was done to understand whether the system is running according to the design stated.

Maintenance Phase:

This phase requires maintained assessment under the supervision of an accounting analyst. He can modify the system or programs if there is any change needed.

Data Analysis:

After gathering data it was then analyzed in SPSS. Descriptive statistics and regression analysis were applied to determine if any relation between the digital accounting applications and financial accuracy and efficiency was observed.

3. Results

The type of digital accounting application used by the personals was directed to the given rating by keeping in view the efficiency of the corresponding or stated application. The results of that individual survey have been listed in the table below. According to the table, about 85% of the participants rate my billbook Invoice billing app being the highest-rated app. While 47% of the participants rate for Xero Accounting. The point is of importance that the rating was given according to the ease and feasibility of application usage by the participant.

According to the survey digital accounting application were rated on quality in perfection bases where khatabook was rated 81.47% preferred by the organizations. GST Invoice Make stands near 80.48%, MybillBook Invoice app was rated 85.71%. Xero Accounting bares the lowest rank in rating that is 47.52%. Account Book- Money Manager rate 76.19%. Similarly, CashBook, Zoho Book, Invoice Book, Accounting Book keeping are preferred by 71.84%, 77.73%, 82.50% and 65.59% of the participants. The table suggests that MybillBook is preferred by the majority of the population.

Table 1. Rating for each digital accounting application

Sr	Digital Accounting application	No. of Ratings
1	Khatabook	81.47%
2	Vyapar-Billing App GST Invoice Make	80.48%
3	MybillBook Invoice Billing App	85.71%
4	Xero Accounting	47.52%
5	Account Book-Money Manager	76.19%
6	CashBook: Biz Expense Manger	71.84%
7	Zoho Books- GST Accounting	77.73%
8	Invoice Billing	82.50%
9	Accounting Bookkeeping	65.59%
10	Golden Business Accounting	66.01%

Here, is the graphical representation of the digital accounting applications used by the population percentage The graph represents that Khatabook has been utilized by 81% of the participants involved in the study. Whereas, MyBillBook is maximally used followed by the minimal use of Xero Accounting. With an average rate of 85.71% and 47.52% respectively.

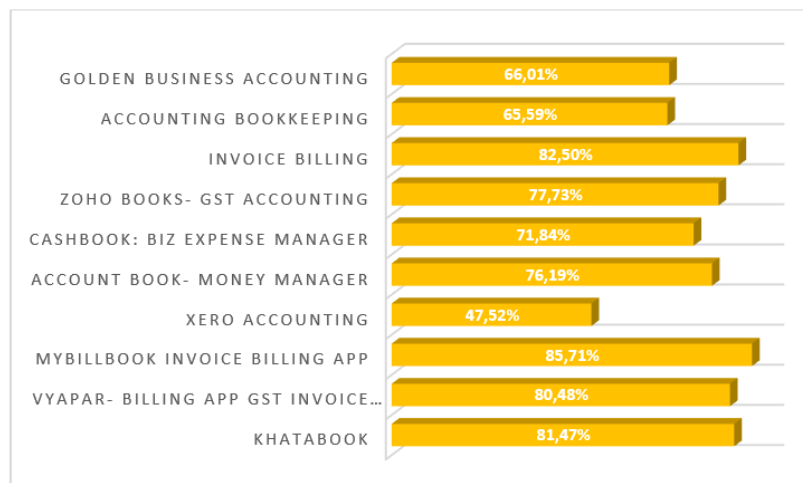


Figure 1. Graphical representation of the percentage of participants utilizing a specific type of digital accounting application

Descriptive Statistics:

Results of descriptive statistics reveals the relation between the key variables.

Table 2. The table demonstrates the comparison of descriptives between all of the accounting applications

Descriptive Statistics					
Applications	N	Minimum	Maximum	Mean	Std. Deviation
Khatabook	50	1.00	15.00	7.6200	4.32784
Vyapar- Billing App GST Invoice Make	50	1.00	15.00	8.0600	4.41893
myBillBook Invoice Billing App	50	1.00	14.00	7.4200	4.08127
Xero Accounting	50	1.00	15.00	7.3800	4.73325
Account Book- Money Manager	50	1.00	15.00	8.6000	4.51754
CashBook: Biz Expense Manager	50	1.00	15.00	7.6000	4.47214
Zoho Books- GST Accounting	50	1.00	14.00	7.9400	4.00209
Accounting Bookkeeping	50	1.00	14.00	6.8600	4.27623
Golden Business Accounting	50	1.00	15.00	7.4000	4.02543
Invoice Billing	50	1.00	15.00	7.1200	4.27923
Valid N (listwise)	50				

The khatabook ranges from 1 to 100 with a standard deviation of 4.327 indicating moderate rate of inflation. The Vyapar-Billing App GST invoice Make exhibit a mean of 8.06 ranges from 1 to 15 with a mean of 8.06 indicating moderate fluctuation in variability. Moreover, myBillBook Invoice have a standard deviation of 4.08. Similarly, Xero Accounting exhibit mean of 7.38 with a standard deviation of 4.733. Whereas, Account Book Money Manager ranges from 1 to 15 exhibiting high level of diversity. CashBook: Biz Expense Manager express a standard deviation of 4.472 ranges from

1 to 15 representing high transparency in relation. At the end, Zoho Books, Accounting Bookkeeping ,Golden Business and Account Billing represents a standard deviation of 4.00, 4.27,4.02 and 4.27 respectively showing high understanding towards digital accounting.

Regression Analysis:

Regression analysis was done to compare the relationship between the dependent and independent variables. The results show a positive relationship between the two variables. The results of regression analysis have been listed in Tables 4 and 5.

Table 3. Model Summary of digital accounting applications

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.127 ^a	.016	-.004	.49138
a. Predictors: (Constant), Digital Accounting				

Model summary in regression analysis indicates that the model represents valid relation between the variables with a R value of 0.127 and R square value of 0.016 with an adjusted R square value of -0.004, all these values indicate the model fit between dependent and independent variable.

Table 4. Coefficient of variance between dependent and independent variables

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.446	.208		6.934	.000
	Digital Accounting	.130	.147	.127	.887	.379
a. Dependent Variable: Accuracy						

The B coefficient value of 0.130 represents a positive correlation with a standard deviation of 0.147. this coefficient for variance indicate a positive relation but it is not a significant relation because p value is 0.374.

Table 5. Data output of regression analysis

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.190	1	.190	.787	.379 ^b
	Residual	11.590	48	.241		
	Total	11.780	49			
a. Dependent Variable: Accuracy						
b. Predictors: (Constant), Digital Accounting						

The ANOVA model shows the the results indicates a positive relation as F value is 0.787, but the relation is not statistically significant. As the P value is 0.379. this indicates that by utilizing any of the digital accounting strategy the accuracy in accounting system can easily be attained. The sum of squares (0.190, 11.590) compared to the mean square values (0.190, 0.241) suggests that the model

express a positive relation with little variation. Here, the results of regression analysis reflect a P value of less than .00 which means that a valuable relation exists between the digital accounting applications and the data accuracy.

4. Discussion

Accounting in terms of digital transformation is of great importance in the growing world. Organizations are now working to improve their accounting systems. For this purpose, digital accounting applications are now being developed (Gonçalves et al., 2022). The current study suggests a comprehensive analysis of the various applications used by companies to make effective and accurate accounting systems within a short period. Accuracy in accounting can only be attained by the use of digital transformation (Jasim and Raewf, 2020). The current study developed one of the digital accounting strategies which is the cloud computing accounting system. The development of such systems can make a company grow even at more speed (Kruskopf et al., 2020).

Anyhow, the current research results indicate the use of digital accounting applications in government organizations. Previously, many studies have been conducted to evaluate the effectiveness of these digital accounting systems in government sectors. Among those a study was performed where the digital accounting framework within the government sector was analyzed. The study highlights the authentic ways of record keeping within the government sectors other than digital accounting systems. (Mosweu, 2018). Another study was performed to analyze the characteristics of the cloud computing accounting strategy in the government sector. The research results show that the implementation of cloud accounting improves the efficiency and accuracy of the government accounting system (Li, 2021).

5. Conclusion

The study concluded that digital account system has a major role in the management of accounting within the organization. It is not only effective in terms of quality but also prevents wastage of time. Now many organizations are ready to invest a large amount for the development of the accounting systems suitable to them. Moreover, the results of the study suggest a valuable relation between data accuracy and digital accounting without concern for the sample size. It would help accountants to improve account data management behavior.

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