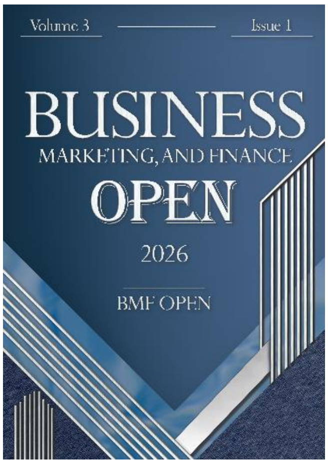
Examining the Implementation Barriers of Governmental Accounting System Based on Public Sector Standards and Its Practical Effects on the Performance of Financial Departments and Treasury Offices within Executive Agencies



Yaser Fouad Taha Taha[1], Masood Fooladi[2,*], Satam Salih Hussein[3] and Maryam Farhadi[4]

[1] Department of Accounting, Is.C., Islamic Azad University, Isfahan, Iran;
[2] Department of Accounting, Is.C., Islamic Azad University, Isfahan, Iran;
[3] Department of Accounting, Faculty of Management and Economics, Tikrit University, Tikrit, Iraq;
[4] Department of Accounting, Is.C., Islamic Azad University, Isfahan, Iran;

* Correspondence: foladim57@iau.ac.ir

Citation: Taha, Y. F. T., Fooladi, M., Hussein, S. S., & Farhadi, M. (2026). Examining the Implementation Barriers of Governmental Accounting System Based on Public Sector Standards and Its Practical Effects on the Performance of Financial Departments and Treasury Offices within Executive Agencies. *Business, Marketing, and Finance Open*, 3(1), 1-17.

Received: 08 June 2025
Revised: 13 August 2025
Accepted: 20 August 2025
Published: 01 January 2026

Financial reporting is one of the key tools for fulfilling accountability, and the government fulfills its accountability responsibility through the preparation and publication of financial reports, and citizens and their legal representatives fulfill the government's accountability responsibility through these reports based on the relevant instructions. The accounting method of executive agencies was cash, which was based on the receipt and payment of cash to record events and emphasize the consumption of assets. In this method, assets, liabilities, revenues, and expenses were not fully identified and reported. In the last decade, many efforts have been made to apply accrual accounting in the public sector reporting system, so the purpose of this study is to examine the implementation barriers of the government accounting system based on public sector standards and its effects on the performance of financial units and accounting officers at the level of executive agencies. In this regard, hypotheses were formulated and designed. The statistical population of this study includes the chief auditors of the National Court of Accounts, who play an important role in the process of examining the reporting and financial statements published by executive agencies, and their number in the country is 160 people. The data of this study was collected using a questionnaire. The hypotheses of this study were tested after statistical analysis with SPSS software, and the results showed that there is a significant relationship between the provision of timely information, failure to recognize assets and liabilities, failure to recognize income, the absence of an integrated financial system in supervisory agencies, the absence of coherent administrative and financial automation, the lack of adequate training and human resource structure, and the lack of full implementation of the accrual accounting basis.

Keywords: Governmental accounting, public sector standards, accrual basis accounting, cash basis accounting

1. Introduction

With the emergence of accounting in the public sector, the nature and form of responsibility and accountability changed in such a way that organizations were compelled to adopt accounting methods to move toward transparency [1, 2].This shift occurred because public organizations and institutions serve as custodians of society's interests and are required to respond to the needs of citizens. At the time when the role of accounting in the public sector was first established, the focus was primarily on the cash basis, and public sector organizations sought to recognize and disclose revenues and expenditures simultaneously and at the time of occurrence [2].

However, with the beginning of paradigm shifts in the humanities, this aspect of accounting performance in the public sector also changed [3]. Since the mid-1980s, many organizations have moved toward the accrual basis for disclosing financial events. In fact, accrual accounting has been recognized as the foundation for reforming financial information systems in the public sector, in response to the transition from traditional public management—characterized by low accountability and transparency—to modern public management [1].

On the other hand, the emergence of legitimacy approaches[4], which have applied business management techniques to improve accountability in the public sector, has in recent decades contributed to the formation and development of mechanisms for managing citizens' rights and has transformed traditional public financial management into a modern structure [4, 5].

For example, the process of transitioning from cash-based accounting to accrual accounting in the central government departments of the United Kingdom began in the early 1990s, and the implementation of this system took nearly a decade In Canada, this shift was approved in 2002, when accounting oversight boards and parliamentary legislators decided that accrual accounting should replace cash accounting [6]. In the United States, the move toward accrual accounting started later than in other developed countries; however, by 2004, most states in the country were already using the accrual basis Nevertheless [5, 6]. although various studies have presented multiple reasons for the challenges of cash accounting and the expansion of accrual accounting, the question remains: why is this change considered so important and strategic? [16].

In one of the earliest studies conducted in this field, Tarantino (2008) emphasized the importance of providing higher-quality information based on accrual accounting and introduced it as a foundation for optimal resource allocation and a benchmark for assessing organizational health [10]. He argued that this type of accounting, by preparing accurate and comprehensive reports on all liabilities and receivables, enables citizens to gain access to more complete information. Moreover, financial statements based on the accrual method contribute to enhancing efficiency and effectiveness across sectors while significantly reducing the likelihood of corruption and fraud [17, 18].

In addition, Fly et al. (2016), in one of their most recent studies, argued that accrual-based accounting in the public sector provides information about economic resources. Such information helps public sector organizations present details regarding the costs associated with their operational activities in a transparent manner to citizens and supervisory institutions Given that traditional financial reporting lacked sufficient capacity to provide the necessary information for effective accountability in government activities, the use of financial systems based on the accrual basis led to increased efficiency and effectiveness in this area [19].

thereby improving governments' performance in fulfilling their public duties. In other words, operational accountability—which emphasizes assessing the impact of current activities on future resources and the government's continued ability to deliver services and meet financial obligations—has been significantly enabled through the establishment of accrual accounting systems [9].Therefore, with awareness of the positive effects of adopting accrual accounting in the public sector, financial system reforms were initiated to move toward this approach, with countries such as New Zealand, the United Kingdom, and Australia being pioneers in this regard [11].

In Iraq, this matter was mandated in the 2015 budget law by oversight institutions for ministries, state-owned organizations, and other executive bodies[3, 14]. However, its implementation as a major reform in financial reporting still faces significant obstacles and remains far from the goals set for the accrual accounting system. Although applying this approach in public sector reporting provides more comprehensive and accurate information compared to cash accounting, the use of the accrual basis also brings its own challenges and complexities [12, 13].

Among these challenges are issues related to the measurement, recognition, and reporting of government resources and assets, obligations and liabilities, as well as revenues, earnings, expenditures, and costs. Some of these issues are similar to those faced in private sector accounting; however, matters such as the timing of recognizing tax revenues, public expenditures[5, 12], and the acquisition of capital assets are specific to the public sector. Since accrual accounting emphasizes changes in and the measurement of economic resources, it provides valuable information in areas such as identifying resources under the control of the reporting entity and evaluating the costs of operations or service delivery [20, 21]. These data can be highly useful for assessing financial position, its changes over time, as well as conducting cost-benefit and efficiency evaluations of the reporting entity's operations [14].

Therefore, by reviewing the related research in this field, this study seeks to identify the limitations of successfully implementing accrual accounting in the public sector[9, 10]. Through a survey approach, it aims to examine the practical obstacles to applying the governmental accounting system based on public sector standards and its operational effects on the performance of financial departments and accounting officers within executive bodies [21].

The structure of the article will proceed as follows: first, the empirical background of the research will be presented. The next section will focus on the research hypotheses. This will be followed by the research methodology, including the statistical population and sample. Subsequently, the measurement of variables and the design of hypothesis testing will be described. Finally, after presenting the research findings, the discussion, conclusions, and recommendations will be provided.

Here's the English translation of your text:

Previous Studies and Research

Fisher (2010), in his study on examining the challenges of changing accounting bases, stated that the use of modern reporting standards better meets the needs of financial report users in public colleges and universities.

Andrews (2014) demonstrated that the possibility of implementing performance-based budgeting exists in states where there is greater professional and technical capacity for such changes, as well as a higher degree of acceptance of reform. Despite numerous studies supporting the adoption of the accrual accounting system, the emergence of accrual-based accounting and financial reporting has not been free of criticism.

Prof et al. (2015) examined the fundamental success factors and strategic role of implementing accrual-based accounting. Their findings indicated that the successful implementation of accrual accounting in local government in Indonesia (Semarang) was supported by four main strategies: management commitment, legal development, information systems development, and human resource development. Furthermore, the results of the implementation revealed that accrual accounting plays a strategic role in enhancing transparency and accountability through financial reporting.

Ratifah & Mulyani (2015) examined the role of culture in the stage of implementing accrual-based accounting. This study, conducted in 32 districts of local governments in Banten Province, Indonesia, aimed to investigate the impact of culture on the adoption of accrual accounting. The test results showed that culture influences the implementation of accrual accounting through the dimensions of power distance, uncertainty avoidance, and gender (male/female).

Samuel (2016), in his study on the factors affecting the adoption of International Public Sector Accounting Standards (IPSAS) in Cameroon, identified the main influencing factors in the acceptance of governmental accounting reforms in general—and IPSAS in particular—as knowledge, training and recruitment of staff, management information systems, implementation costs, and political support, among others. The results of the study indicate that in order to achieve successful public sector accounting reforms and the adoption of IPSAS in Cameroon, it is essential for the government to thoroughly examine these factors.

Association of Chartered Certified Accountants (2017), by examining the current situation and challenges of implementing International Public Sector Accounting Standards (IPSAS) in a number of countries across different continents, stated that despite the many advantages of adopting these standards, there is a significant degree of disparity and instability in their acceptance among countries. The findings indicate that progress has been very slow and remains far from the desired state. These countries face complex implementation challenges, including stakeholder engagement, structural and legal transformation, change management, capacity building in skills, technology and infrastructure, implementation approaches, and external support [7, 8].

Khordiyar and Mojoudi Nia-ye Kasmaei (2017), in their article titled *"The Role and Position of Accounting and the Use of the Accrual Basis in the Accountability System"*, argued that in order to enhance accountability in the public sector, beyond political will, the establishment of systems and the implementation of oversight mechanisms are also essential. By using accrual accounting, the current state of reporting entities can be better described, leading to the preparation of more useful information for improving resource allocation, increasing accountability, enhancing informational transparency, and raising awareness of economic impacts. In this way, relevant institutions, in fulfilling their accountability responsibilities, can provide reliable reports to the public and exercise greater control over their assets and resources. However, this process requires time, financial resources, and the engagement of experts in the field. The use of full accrual accounting increases accountability, facilitates decision-making based on the financial statements presented to stakeholders, and enables the comparability and evaluation of managers' performance [8].

GolMohammadi and Azmoudeh (2017) in their study examined the *"Effects of the Accrual Accounting System on Improving Financial Performance."* The research was applied in purpose, descriptive in nature, and employed a survey (field) method for data collection. The statistical population consisted of managers, experts, and administrative and financial staff of the Razi Vaccine and Serum Research Institute. They stated that, since accounting in government organizations is performed on a cash or quasi-accrual basis, performance information and financial reports are generally recorded as expenses. Purchases, whether asset acquisitions or operational costs, are accounted for as expenses, making it difficult to access information about assets, properties, inventory, depreciation, receivables, payables, and equity (government ownership), as well as to calculate full costs.

Accordingly, in some government organizations and institutions engaged in research and academic activities, replacing cash-based accounting with accrual accounting provides appropriate, accurate, and timely information. The results indicated a significant relationship between the accrual accounting component and improved financial performance. Specifically, implementing accrual accounting at the Razi Vaccine and Serum Research Institute led to greater financial discipline, timely financial information, identification of adequate budgetary resources, determination of full costs, and recognition of unpaid financial obligations for the fiscal year.

Vasati Kalai and Tabibi Rad (2017), in their study titled *"Examining the Relationship Between Accrual Accounting and Planning and Cost Analysis in Operational Budgeting,"* considered managers and staff of Saveh University of Medical Sciences as their statistical population. Using the Cochran formula, a sample of 103 individuals was randomly selected. Data were collected using a researcher-made questionnaire, whose content validity was confirmed by consulting five experts and faculty members. Reliability was assessed using Cronbach's alpha, which indicated a coefficient higher than the benchmark of 0.7, confirming adequate reliability. Data analysis was conducted using SPSS 20. The results showed a significant relationship between the use of accrual accounting and the dimensions of the accountability system and the motivational system of performance-based budgeting.

Rezaei and Mostafaei (2017), in their study titled *"Examining the Role of Information Technology in the Development of the Accrual Accounting System,"* employed a descriptive-survey method for analyzing variables and an applied approach in terms of research objective. The statistical population consisted of the judiciary of Kermanshah Province, with a sample of 175 individuals selected for data collection. Confirmatory factor analysis using AMOS structural equation modeling software was employed to analyze the data and test the hypotheses. According to the findings, the application of technology in data and information management has a significant effect on the development of the accrual accounting system. Similarly, technology use in performance evaluation, information security, financial reporting methods, human resource management, and planning and decision-making all had significant effects on the development of the accrual accounting system. Overall, the dimensions and functions of information technology usage had a positive and significant impact on the development of accrual accounting in the judiciary of Kermanshah Province.

Mahmoudi et al. (2017), in their study titled *"Examining the Barriers and Challenges to Implementing the Accrual Accounting System in Tabriz Municipality,"* investigated the obstacles and challenges to establishing an accrual accounting system in the metropolitan city of Tabriz. The study aimed to identify the most significant factors hindering implementation and to propose potential solutions. Based on literature review and expert opinions in accrual accounting, these barriers were classified into three categories: environmental, structural, and human.

The research was conducted in two stages: first, preliminary studies were carried out to gain a better understanding of the accrual accounting system; second, data required to test the hypotheses were collected via a suitable questionnaire distributed to managers and executive specialists in municipalities (including city council members, the mayor, and deputies).

The study tested three hypotheses:

1. Environmental barriers prevent the implementation of the accrual accounting system in Tabriz Municipality. This hypothesis was accepted at a 95% confidence level.
2. Structural barriers prevent the implementation of the accrual accounting system in Tabriz Municipality. This hypothesis was accepted at a 95% confidence level.
3. Human barriers prevent the implementation of the accrual accounting system in Tabriz Municipality. This hypothesis was accepted at a 95% confidence level.

Given the confirmation of all research hypotheses, it was concluded that environmental, structural, and human barriers have hindered the establishment of the accrual accounting system in Tabriz Municipality, with the order of priority being human, structural, and environmental barriers. Therefore, it is recommended that these obstacles be identified and addressed during the implementation of the accrual accounting system.

Bahrami Yarahmadi (2017), in her study titled *"Examining the Barriers to Implementing Accrual Accounting in the Social Security Organization of Tehran Province,"* investigated the obstacles to applying accrual accounting in this organization. Based on a review of previous studies and expert opinions, relevant indicators were identified, and a questionnaire consisting of 27 questions was designed. After assessing its validity and reliability, the questionnaire was distributed to a randomly stratified sample of 110 individuals. The completed questionnaires were then collected, and the data were summarized, categorized using descriptive statistics, and analyzed with inferential statistics (one-sample t-test). The results indicated that lack of competition within the organization, low benefits, absence of an accountability culture, insufficient awareness of managers regarding the role and importance of accrual accounting in achieving organizational goals, underutilization of professional experts, and the size of the audited institutions all act as barriers to implementing accrual accounting.

Moumeni and Ayvazi (2018), in their study titled *"Examining the Status of Accrual Accounting in the Public Sector of Iran and Its Challenges and Benefits,"* conducted a library-based review of prior literature and relevant articles, along with interviews with professors and financial officials. Their research examined the status of public sector accounting in Iran, its challenges and benefits, and its role in the country's economic policies. According to them, Clause 9 of the General Policies of the Resistance Economy, Article 214 of the Fifth Development Plan, and Article 219 of the Fifth Development Plan Law provide the legal basis for implementing accrual accounting. Their findings indicated that the lack of specialized human resources and relevant software are key challenges in implementing these reforms. They emphasized the need for research to address structural issues and consider environmental characteristics relevant to the type of activities, as well as ensuring measurability and collectability conditions for revenue recognition and reporting.

Mobasherian and Arabzadeh (2018), in their study titled *"Examining the Predictive Ability of Financial Information Accuracy by Accrual Accounting versus Cash Accounting,"* argued that in order to enhance public sector accountability, beyond political will, the establishment of systems and the implementation of oversight mechanisms are essential. Accrual accounting allows for a more accurate description of the current status of reporting entities, facilitates the preparation of more useful information for improved resource allocation, increases accountability, enhances informational transparency, and raises awareness of economic impacts. Through this, relevant institutions can provide reliable reports to the public and exercise greater control over their assets and resources. However, this process requires time, financial resources, and engagement of specialized personnel. The use of full accrual accounting increases accountability, facilitates decision-making based on the financial statements provided to stakeholders, and enables the comparability and evaluation of managerial performance.

Ghadami et al. (2018), in their study titled *"A Comparative Study of the Performance of Accounting Information Systems with an Accrual Approach: A Descriptive-Analytical Study on the Performance of Accounting Information Systems with an Accrual Approach in Different Divisions of Mashhad University of Medical Sciences,"* examined the performance of accounting information systems using an accrual approach across various divisions of Mashhad University of Medical Sciences. This study was applied in purpose and descriptive-analytical in design, comparing the performance of accounting information systems with an accrual approach across the university's divisions.

The target population included the university president, vice presidents, the university's financial manager, deputies, heads of affiliated units, and financial officers of various departments, all of whom had at least a bachelor's degree and a minimum of ten years of experience in university financial management. The study assessed eight factors through 62 statements, which were evaluated for 133 samples after validity confirmation. To address the research questions, Shapiro-Wilk tests, one-sample t-tests, and Kruskal-Wallis tests were conducted using SPSS 23. The results indicated a favorable status for all the assessed factors. Across all divisions, performance was significantly at a desirable level, and statistically, all divisions were found to be on equal footing.

Research Hypotheses

The main hypothesis of the present study is as follows:

The challenges in changing the governmental accounting system have prevented the full implementation of the accrual accounting basis at the level of executive agencies, universities, and municipalities.

Accordingly, based on the main hypothesis and the defined objectives, the following sub-hypotheses have been formulated:

1. The lack of complete and timely information has prevented the full implementation of the accrual accounting basis at the level of executive agencies, universities, and municipalities.
2. The inaccurate, incomplete, or untimely recognition of assets and liabilities has prevented the full implementation of the accrual accounting basis at the level of executive agencies, universities, and municipalities.
3. The inaccurate, incomplete, or untimely recognition of revenues and expenses has prevented the full implementation of the accrual accounting basis at the level of executive agencies, universities, and municipalities.
4. The absence of an integrated and unified system within supervisory bodies has prevented the full implementation of the accrual accounting basis at the level of executive agencies, universities, and municipalities.
5. The lack of a unified and coherent administrative and financial software across all executive agencies has prevented the full implementation of the accrual accounting basis at the level of executive agencies, universities, and municipalities.
6. Insufficient and non-practical training has prevented the full implementation of the accrual accounting basis at the level of executive agencies, universities, and municipalities.
7. The human resource structure has prevented the full implementation of the accrual accounting basis at the level of executive agencies, universities, and municipalities.

Research Variables

Based on the hypotheses presented in the current study, the research variables are as follows:

The dependent variable in this study is the incomplete implementation of the accrual accounting basis. Based on library studies of domestic and international articles, as well as consultations with auditors and financial officers of major executive agencies, the independent variables considered in this research are:

Lack of complete and timely information

Inaccurate, incomplete, or untimely recognition of assets and liabilities

Inaccurate, incomplete, or untimely recognition of revenues and expenses

Absence of an integrated and unified system within supervisory bodies

Lack of a unified and coherent administrative and financial software across all executive agencies

Insufficient and non-practical training

Human resource structure

Research Methodology

The present study, with the main objective of *"Examining the implementation barriers of the governmental accounting system based on public sector standards and its effects on the performance of financial units and accountants at the level of executive agencies,"* is descriptive in nature and was conducted using a survey method. The main feature of survey research is a systematic collection of data, often referred to as a variable matrix based on case-specific data. In other words, a survey is a descriptive-explanatory study that, through random and representative sampling of the research population, collects responses to a set of questions using questionnaires, polls, or other methods to investigate the current situation—covering attitudes, opinions, behaviors, and generally extracting information about living conditions and characteristics that distinguish individuals. Surveys can be used to test prior explanations or theories and to develop new theories, but they primarily focus on descriptive study of the current situation.

In the present research, **library research** was used to collect information related to the literature, while **field research** using questionnaires was the main method for collecting data on the variables and testing the hypotheses. The questionnaire is one of the most widely used tools in survey research and consists of a set of structured questions designed to assess respondents' opinions, perspectives, and insights using various scales.

Based on the defined research variables, their operational definitions, and the developed dimensions and indicators, a questionnaire was designed with both open- and closed-ended questions using a Likert scale. The questionnaire consisted of two sections with a total of 44 questions:

- **Section 1 (Demographic Information):** Includes 4 questions about personal information such as gender, age, education level, and work experience.
- **Section 2 (Specialized Questions):** Contains 40 questions corresponding to the research hypotheses, as detailed in Table 1.

A 5-point Likert scale was used to measure the variables. Since the responses in this scale are qualitative, they were converted to quantitative values, assigning coefficients from 1 to 5 for each option. The questionnaire was distributed to respondents via the internet.

Table 1. Correspondence of each questionnaire item

Variable	Question Numbers
Incomplete implementation of the accrual basis of accounting	1–11
Lack of timely information provision	12–17
Lack of recognition of assets and liabilities	18–21
Lack of recognition of revenues	22–26
Absence of an integrated financial system in supervisory bodies	27–29
Absence of coherent administrative and financial automation	30–32
Insufficient training	33–36
Human resources structure	37–40

The statistical population of this research consists of senior auditors of the Supreme Audit Court of Iraq, who play an important role in the process of reviewing financial reporting and published financial statements of executive agencies. Their total number nationwide is more than 160 individuals. To determine the sample size, considering the total number of senior auditors of the Supreme Audit Court of Iraq and the issue of generalizing the results, the sample size was calculated using Cochran's formula, resulting in the following value:

$$n = (N * t^2 * p * q) / (d^2 (N - 1) + t^2 * p * q)$$

where:

- p and q are the success and failure ratios, considered as 0.5.
- t is the value at a 0.05 error level, equal to 1.96.
- d is the error margin, considered as 0.05.
- N represents the population size.

Based on the above formula, the acceptable sample size was estimated to be 113 individuals. Moreover, 160 questionnaires were distributed to all individuals in the population, of which 129 questionnaires were completed and returned to the researcher. Considering the estimated sample size, this number is acceptable for generalizing the research results.

A questionnaire is considered valid when, based on its questions, the intended research objectives can be measured, and when no logical error exists in the study design. In other words, the validity of the research and questionnaire can be examined and evaluated from two important aspects: internal validity (the ability to measure the objective) and external validity (the correct design of the study in all aspects). To estimate validity, content validity was used. Content validity involves a review and evaluation by experts and specialists in the subject area under study. Accordingly, content validity is directly linked to expert judgment. For assessing content validity in this study, the prepared questionnaire was given to the supervisor and several senior experienced auditors, and after their review, the content validity of the questionnaire and its questions was confirmed.

Reliability, as a tool for evaluating the questionnaire, is a measure used to examine the correlation among questions such that most respondents score similarly on the same scale at two different times. An unreliable scale results from unstable responses. Since it is generally not feasible to pose identical questions to the same respondents at two points in time, item-to-item correlations are measured. The index used for overall reliability is Cronbach's alpha coefficient, which ranges from 0 to 1. By examining the reliability of a questionnaire, it is possible to determine the extent to which respondents' interpretations of the questions related to an indicator are consistent.

To calculate Cronbach's alpha in this research, during the overall process of finalizing the questionnaire, a preliminary version was first prepared and administered to 30 respondents. After its completion, the scales were tested for reliability. For this purpose, Cronbach's alpha coefficient was used. First, the factor loadings of each question were determined, and any question with a factor loading less than 0.3 was eliminated. Then Cronbach's alpha was calculated for the remaining questions, which yielded a value of 0.95. Ultimately, the questionnaire was revised based on the pilot study results, and the final questionnaire was provided to respondents for completion. The following formula was used to calculate Cronbach's alpha:

(2)

$$\alpha = (k / (k - 1)) * (1 - (\Sigma\, \sigma^2 i / \sigma^2 total))$$

or

$$\alpha = (k * \bar{c}) / (\bar{v} + (k - 1) * \bar{c})$$

where:

- k = number of items in the questionnaire
- $\sigma^2 i$ = variance of each item i in the questionnaire
- $\sigma^2 total$ = total variance of the sum of items in the questionnaire
- $\bar{c}$ = average covariance between the items
- $\bar{v}$ = variance of the mean of the items

It is evident that the closer Cronbach's alpha is to 1, the higher the internal correlation among the questions, and consequently, the more homogeneous the items. Conversely, if the alpha value is low, it is necessary to identify which questions should be removed to increase the coefficient.

Table 2. Cronbach's alpha coefficient for reliability of questionnaire indices

Scale	Number of Questions	Cronbach's Alpha
Incomplete implementation of the accrual basis of accounting	11	0.81
Lack of timely information provision	6	0.88
Lack of recognition of assets and liabilities	4	0.62
Lack of recognition of revenues on an accrual basis	5	0.60

Absence of an integrated financial system in organizations	3	0.63
Absence of coherent administrative and financial automation	3	0.68
Insufficient training	4	0.81
Human resources structure	4	0.72
Overall	40	0.92

According to the results presented in Table (2), Cronbach's alpha coefficient for the entire questionnaire and all indices was greater than 0.60, thereby confirming the high reliability of the questionnaire. Overall, the questionnaire demonstrates strong reliability.

2. Findings and Results

In order to examine and test the research hypotheses, data analysis was conducted in several stages using SPSS software. Initially, descriptive statistics of the characteristics and personal attributes of the respondents were examined, and subsequently, each of the research hypotheses was tested using correlation coefficient tests and regression analysis. Table (3), based on the information obtained from the completed questionnaires, describes the frequency distribution of the sample group according to gender, age, education level, and work experience.

Table 3. Descriptive statistics and frequency distribution of the sample group (129 participants) by gender, age, education level, and work experience

Category	Sub-category	Frequency	Percentage (%)
Gender	Male	114	88.0
Female	15	12.0	
Age (years)	20–29	9	7.0
30–39	34	26.4	
40–49	72	55.8	
50 and above	14	10.8	
Education Level	Doctorate	46	35.7
Master's degree	69	53.5	
Bachelor's degree	11	8.5	
Diploma	3	2.3	
Work Experience (years)	1–5	6	4.6
5–10	29	22.5	
10–15	35	27.1	
15–20	51	39.5	
20 and above	8	6.3	

The results of Table (3) indicate that 88% of the participants in the study were male and 12% were female. The findings also show that the majority of participants, at a rate of 55.8%, were between 40 and 49 years of age, with the remainder falling into other age groups. In addition, according to the results of the study, the majority of participants, at 53.5%, held a master's degree, while 35.7%, 8.5%, and 2.3% held a doctorate, bachelor's degree, and diploma, respectively. Furthermore, the results of Table (3) demonstrate that most participants, at 66.6%, had between 10 and 20 years of work experience.

The results of Table (4) present the mean, standard deviation, relative importance, and ranking of the questionnaire items of this study for each variable, as follows:

Table 4. Mean and standard deviation of questionnaire items

Construct / Item	Mean	Standard Deviation	Relative Importance (%)	Rank
Incomplete Implementation of Accrual Basis of Accounting				
Item 1	4.16	0.79	83.2	2

Item 2	3.50	0.92	70.0	10
Item 3	3.74	0.83	74.8	9
Item 4	3.95	0.89	79.0	5
Item 5	3.83	1.00	76.6	7
Item 6	3.74	1.02	74.8	8
Item 7	3.85	0.85	77.0	6
Item 8	4.06	0.81	81.2	3
Item 9	4.23	0.71	84.6	1
Item 10	4.01	0.68	80.2	4
Item 11	4.01	0.68	80.2	4
Overall	3.91	0.49	78.2	–
Lack of Timely Information Provision				
Item 12	3.67	0.86	73.4	2
Item 13	3.46	0.91	69.2	5
Item 14	3.46	1.09	69.2	5
Item 15	3.83	0.92	76.6	1
Item 16	3.51	0.93	70.2	3
Item 17	3.48	1.02	69.6	4
Overall	3.56	0.76	71.2	–
Lack of Recognition of Assets and Liabilities				
Item 18	3.57	0.99	71.4	4
Item 19	3.88	0.94	77.6	2
Item 20	3.61	1.12	72.2	3
Item 21	4.03	0.84	80.6	1
Overall	3.77	0.67	75.4	–
Lack of Recognition of Revenues				
Item 22	3.78	0.71	75.6	3
Item 23	3.90	0.87	78.0	1
Item 24	3.78	0.71	75.6	3
Item 25	3.80	0.87	76.0	2
Item 26	3.56	0.98	71.2	4
Overall	3.76	0.52	75.6	–
Absence of Integrated Financial System in Supervisory Bodies				
Item 27	4.13	0.64	82.6	1
Item 28	3.88	0.82	77.6	2
Item 29	3.61	0.89	72.2	3
Overall	3.87	0.63	77.4	–
Absence of Coherent Administrative and Financial Automation				
Item 30	3.80	0.75	76.0	3
Item 31	3.93	0.73	78.6	1
Item 32	3.83	1.02	76.6	2
Overall	3.80	0.66	76.0	–
Lack of Sufficient Training				
Item 33	4.12	0.84	82.4	1
Item 34	4.01	1.02	80.2	2
Item 35	3.77	0.97	75.4	4
Item 36	3.88	0.86	77.6	3
Overall	3.94	0.74	78.8	–
Human Resources Structure				
Item 37	4.15	0.68	83.0	1
Item 38	3.86	0.86	77.2	4
Item 39	3.98	0.84	79.6	2
Item 40	3.95	0.75	79.0	3

Overall	3.98	0.58	79.6	–

The results of Table (5) also indicate that the mean values for the variables of incomplete implementation of accrual basis accounting, lack of timely information provision, lack of recognition of assets and liabilities, lack of recognition of revenues, absence of an integrated financial system in supervisory bodies, absence of coherent administrative and financial automation, insufficient training, and human resources structure are 3.91, 3.56, 3.77, 3.76, 3.87, 3.80, 3.94, and 3.98, respectively.

Table 5. Mean and Standard Deviation of Dependent and Independent Variables

Statistical Indicators

Scale	Mean	Standard Deviation
Incomplete implementation of accrual basis of accounting	3.91	0.49
Lack of timely information provision	3.56	0.76
Lack of recognition of assets and liabilities	3.77	0.67
Lack of recognition of revenues	3.76	0.52
Absence of an integrated financial system in supervisory bodies	3.87	0.63
Absence of coherent administrative and financial automation	3.80	0.66
Insufficient training	3.94	0.74
Human resources structure	3.98	0.58

Table 6. Correlation Coefficients, Determination Coefficients, and Regression Results for Hypotheses 1–7

Independent Variable	Dependent Variable	Correlation Coefficient (r)	R^2	Adjusted R^2	F-statistic	Significance (p)	Coefficient (β)	t-statistic	Significance (p)
Challenges of changing the governmental accounting system	Incomplete implementation of accrual basis of accounting	0.58	0.34	0.33	65.07	0.00	0.58	8.067	0.03
Lack of timely information provision	Incomplete implementation of accrual basis of accounting	0.45	0.20	0.196	32.29	0.00	0.45	5.68	0.00
Lack of recognition of assets and liabilities	Incomplete implementation of accrual basis of accounting	0.64	0.42	0.41	91.80	0.00	0.64	9.58	0.00
Lack of recognition of revenues (accrual basis)	Incomplete implementation of accrual basis of accounting	0.28	0.08	0.07	11.50	0.00	0.288	3.39	0.00
Absence of integrated financial system in supervisory bodies	Incomplete implementation of accrual basis of accounting	0.53	0.28	0.27	49.33	0.00	0.53	7.02	0.00
Absence of coherent administrative and financial automation	Incomplete implementation of accrual basis of accounting	0.49	0.24	0.23	40.31	0.00	0.49	6.35	0.00
Lack of sufficient training	Incomplete implementation of accrual basis of accounting	0.35	0.13	0.12	18.40	0.00	0.355	4.28	0.00

Human resources structure	Incomplete implementation of accrual basis of accounting	0.18	0.035	0.027	4.59	0.03	0.187	2.143	0.03

Hypothesis 1: The first hypothesis proposed that lack of complete and timely information provision leads to the incomplete implementation of the accrual basis of accounting. The results confirm a significant positive relationship ($r = 0.45$, $p < 0.05$), indicating that 20% of the variance in the dependent variable is explained by the independent variable. This finding suggests that reducing timely information provision directly decreases the likelihood of full implementation of accrual accounting.

Hypothesis 2: The second hypothesis suggested that failure to recognize assets and liabilities accurately and on time results in incomplete implementation of accrual accounting. The analysis shows a strong and statistically significant relationship ($r = 0.64$, $p < 0.05$), with 42% of the variance shared. The positive coefficient indicates that the less assets and liabilities are recognized, the lower the implementation level of accrual accounting.

Hypothesis 3: The third hypothesis assumed that failure to recognize revenues and expenses on an accrual basis contributes to incomplete implementation of accrual accounting. The results confirm a significant but weaker relationship ($r = 0.28$, $p < 0.05$), with 8% of the variance explained. The positive coefficient demonstrates that the less accrual-based revenue recognition occurs, the less complete the accrual accounting system will be implemented.

Hypothesis 4: The fourth hypothesis proposed that absence of an integrated financial system in supervisory bodies hinders the complete implementation of accrual accounting. The findings confirm a significant relationship ($r = 0.53$, $p < 0.05$), with 28% shared variance. The positive coefficient shows that the lack of integrated financial systems significantly reduces the capacity for full implementation of accrual accounting.

Hypothesis 5: The fifth hypothesis stated that lack of coherent administrative and financial automation leads to incomplete implementation of accrual accounting. The results show a significant relationship ($r = 0.49$, $p < 0.05$), with 23% variance explained. The positive coefficient indicates that weaker automation systems reduce the likelihood of effective accrual accounting adoption.

Hypothesis 6: The sixth hypothesis proposed that insufficient and practical training is a barrier to complete implementation of accrual accounting. The analysis reveals a significant relationship ($r = 0.35$, $p < 0.05$), with 13% shared variance. The positive coefficient demonstrates that lower levels of training lead to reduced implementation success of accrual accounting.

Hypothesis 7: The seventh hypothesis stated that the structure of human resources affects the incomplete implementation of accrual accounting. The results indicate a weaker but statistically significant relationship ($r = 0.18$, $p < 0.05$), with 3.5% variance explained. The positive coefficient suggests that poor human resource structures negatively influence the degree of accrual accounting implementation.

3. Discussion and Conclusion

The findings of this study provide empirical confirmation that multiple organizational, informational, and structural barriers hinder the full implementation of accrual accounting in Iraq's public sector, including executive agencies, universities, and municipalities. The statistical analysis revealed significant relationships between incomplete implementation of the accrual basis of accounting and a range of explanatory factors, such as lack of timely information provision, insufficient recognition of assets and liabilities, incomplete recognition of revenues, absence of integrated financial systems, weak administrative and financial automation, inadequate training, and limitations in human resource structures. Taken together, these results highlight the systemic nature of the challenges faced by public institutions in moving from traditional cash-based approaches to more sophisticated accrual-based systems.

One of the central findings of this research was the significant relationship between lack of timely information provision and incomplete implementation of accrual accounting. This aligns with studies conducted in Malaysia, where government accountants stressed that accrual-based information systems must provide timely and reliable data to be useful for managerial decision-making [10]. Without such timeliness, the accrual system risks being perceived as bureaucratic rather than decision-enhancing. The findings also resonate with research from Iraq's judiciary sector, where the integration of IT infrastructure was found to be essential for ensuring the timeliness and relevance of accrual accounting [11]. Thus, the results reinforce the notion that timeliness of financial information is not simply a technical consideration but a core determinant of the perceived legitimacy of accounting reforms.

The results also demonstrated a strong and statistically significant correlation between failure to recognize assets and liabilities and incomplete accrual implementation. This finding is consistent with previous evidence from Iraq municipalities and universities, which showed that partial recognition of assets—particularly fixed and intangible assets—creates distortions in financial reporting [17, 18]. Comparative analyses highlight that when liabilities are not fully recorded, accountability mechanisms are undermined, as financial statements fail to reflect the true obligations of the organization [19]. Similar dynamics have been observed in Iraq, where performance-based budgeting reforms faltered due to incomplete recognition of financial positions [8]. This suggests that full recognition of assets and liabilities is a universal precondition for the credibility of accrual-based systems.

With respect to revenue recognition, the findings indicated a weaker yet significant relationship between lack of accrual-based recognition of revenues and incomplete implementation. This partially echoes studies in the Iraq public sector, where dual reliance on cash and accrual recording created ambiguity for decision-makers [5, 6]. International experience similarly suggests that unless revenues are consistently recorded on an accrual basis, financial statements cannot capture the real economic activities of government entities [1, 2]. For example, in Sri Lanka, the absence of comprehensive revenue recognition was identified as a major barrier to building trust in the accrual system [3]. The finding here therefore highlights the importance of ensuring that revenue processes are fully aligned with accrual principles to avoid the pitfalls of partial or hybrid systems.

Another significant factor uncovered was the absence of integrated financial systems across supervisory bodies. The results indicated that lack of system integration directly reduces the extent to which accrual accounting can be applied in practice. This is supported by earlier Iraq studies, which identified fragmented financial information systems as a critical obstacle to reform [4, 12]. In Kermanshah, for instance, the judiciary's difficulties in implementing accrual accounting were linked to disparate IT and financial reporting systems that prevented consistency and comparability [11]. Comparable challenges were also noted in Malaysia, where intra-organizational identity and logic conflicts emerged partly due to lack of system-wide integration [2]. By contrast, research in Iraq demonstrates that performance-based budgeting initiatives are most effective when supported by integrated financial systems [8]. These findings converge to indicate that integration is not merely an efficiency issue but a structural necessity for accrual reforms.

The study also highlighted the role of administrative and financial automation. The significant positive relationship between absence of coherent automation and incomplete accrual implementation confirms earlier assertions that digitalization is a prerequisite for accounting reform [11]. Studies on optimal accrual models have emphasized that without automated systems, the manual workload of recording, consolidating, and reconciling accrual transactions creates significant implementation burdens [13]. From a broader perspective, technological solutions such as integrated financial management systems (IFMIS) are key enablers of reform, linking accrual practices to governance and performance monitoring [14, 16]. Therefore, the findings reaffirm that automation is not a peripheral feature but a central enabler of sustainable accrual systems.

Inadequate training emerged as another statistically significant factor influencing the implementation of accrual accounting. This confirms findings in both Iraq and international contexts, where lack of sufficient and practical training for staff was consistently cited as a primary barrier [5, 12]. In Sri Lanka, professional associations were found to be instrumental in providing training and capacity-building, highlighting the importance of professional development in overcoming resistance to change [3]. Similarly, research in Malaysia emphasizes that the utility of accrual information depends heavily on the capacity of staff to interpret and apply it [10]. Thus, the results underscore the need to address the human resource dimension of reform, where technical knowledge and cultural adaptation are both critical.

Finally, the analysis revealed a weaker but still significant relationship between human resource structures and incomplete accrual implementation. This is consistent with prior studies noting that organizational culture, staff turnover, and hierarchical rigidity often weaken the capacity of institutions to adopt new accounting practices [20, 21]. In Iraq, structural rigidities in executive agencies have been shown to inhibit innovation and adaptation to accrual principles [12]. More broadly, bibliometric evidence demonstrates that sustainable performance in public organizations is strongly associated with robust human resource practices that support change initiatives [15]. Therefore, while the statistical relationship is weaker compared to other factors, the results nonetheless emphasize that human resources represent an important underlying condition for reform success.

Taken together, these findings reinforce the argument that the shift toward accrual accounting in Iraq and comparable contexts is not solely a technical adjustment but a comprehensive organizational reform. The evidence confirms earlier arguments that accrual adoption must be understood as a multifaceted change involving information systems, human resources, organizational culture, and institutional governance [2, 9]. While the Iraq case reflects unique challenges related to political and institutional settings, it also aligns with global patterns observed in Sri Lanka, Malaysia, and Iraq, where similar structural barriers have been documented [3, 8]. These parallels suggest that the Iraq experience contributes to the broader international discourse on public sector accounting reform, offering lessons that extend beyond national boundaries.

This study, despite its contributions, has certain limitations that must be acknowledged. First, the research relied on a survey-based methodology with responses drawn primarily from senior auditors in Iraq's Supreme Audit Court. While this group plays a significant role in financial oversight, their perspectives may not fully capture the experiences of operational staff or managers directly responsible for accrual implementation at the organizational level. Second, the cross-sectional design of the study limits its ability to assess changes over time or capture long-term outcomes of accrual adoption. Finally, the study was conducted within the Iraq context, and although the findings align with international experiences, caution should be exercised when generalizing results to other countries with different institutional environments.

Future research could build upon these findings by employing longitudinal designs to track accrual adoption over time, thereby providing insights into the dynamic processes of reform. Comparative studies across multiple countries in the region would also be valuable, helping to identify how institutional, political, and cultural factors mediate the success or failure of accrual accounting reforms. In addition, future research could focus on the interaction between accrual systems and other governance reforms, such as performance-based budgeting or e-government initiatives, in order to better understand the synergies and trade-offs involved in comprehensive public sector modernization.

For practitioners, the results suggest that implementing accrual accounting requires a holistic approach that addresses both technical and human resource dimensions. Policymakers should prioritize investments in integrated financial systems and automation technologies while simultaneously strengthening training programs for staff at all levels. Moreover, reform strategies should be embedded within broader organizational change initiatives, ensuring that accrual systems are aligned with accountability mechanisms, performance-based budgeting, and sustainability goals. By addressing these interconnected factors, public organizations can enhance the effectiveness and legitimacy of accrual accounting reforms.

Authors' Contributions

Authors equally contributed to this article.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

Acknowledgments

Authors thank all participants who participate in this study.

Conflict of Interest

The authors report no conflict of interest.

Funding/Financial Support

According to the authors, this article has no financial support.

References

[1] E. Bonollo, "Negative effects of the adoption of accrual accounting in the public sector: a systematic literature review and future prospects," *Journal of Public Budgeting, Accounting & Financial Management*, vol. 1, no. 3, pp. 1-20, 2023, doi: 10.1108/JPBAFM-06-2022-0097.

[2] M. Rozaidy and A. K. Siti-Nabiha, "Reconstructing identity and logic through the implementation of accrual accounting in Malaysia: an intra-organizational analysis," *Journal of Management and Governance*, vol. 27, no. 2, pp. 331-370, 2023, doi: 10.1007/s10997-021-09615-4.

[3] T. Dissanayake and S. Dellaportas, "The role of the professional association in the translation of accrual accounting in the Sri Lankan public sector," *Accounting, Auditing & Accountability Journal*, vol. 4, no. 4, pp. 93-112, 2023.

[4] M. Mahmoudi, "Challenges implementing accrual accounting in Urmia Municipality," in *2nd International Management Conference*, Tehran, 2017: Asreh University.

[5] A. Momeni and M. Eyvazi, "Status and challenges of Iran's public sector accrual accounting," in *3rd International Accounting Conference*, Karaj, 2018: Applied Science University.

[6] S. Mobasherian and M. Arabzadeh, "Predictive ability of accrual vs cash accounting," in *1st National Accounting Conference*, Natanz, 2018: Islamic Azad University.

[7] S. M. Zamani Vasti Kalaei and V. Tabibi Rad, "Relationship between accrual accounting and performance-based budgeting (Case: Saveh Medical School)," in *National Conference on Scientific Research*, Shiraz, 2017: Islamic Azad University.

[8] M. Kashanipour, M. Nadiri, G. Moharrampour, and A. Baher, "Implementation of performance-based budgeting and accrual accounting in public organizations in Iraq," *International Journal of Nonlinear Analysis and Applications,* vol. 15, no. 1, pp. 161-178, 2024, doi: 10.22075/ijnaa.2023.28909.4268.
[9] M. Namazi, A. Nazemi, N. R. Namazi, and E. Moazzeni, "Investigating Performance-based Budgeting and Performance Control in Iran's Executive Apparatus Using Balanced Scorecard Technique," (in en), *Empirical Studies in Financial Accounting,* vol. 20, no. 77, pp. 37-72, 2023, doi: 10.22054/qjma.2023.69417.2400.
[10] S. Ismail, "Perception of the Malaysian Federal Government accountants of the usefulness of financial information under an accrual accounting system: a preliminary assessment," *Meditari Accountancy Research,* vol. 31, no. 3, pp. 658-674, 2023, doi: 10.1108/MEDAR-04-2020-0845.
[11] F. Rezaei and Z. Mostafaei, "IT's role in developing accrual accounting in Kermanshah Judiciary," in *1st National Conference on Accounting, Economics & Management*, Tabriz, 2017: Shams Institute.
[12] A. Mahdavi, "Challenges implementing accrual accounting in public sector," *Journal of Empirical Financial Accounting Studies,* vol. 79, pp. 249-282, 2023.
[13] A. Naroui, "Optimal accrual accounting model for public sector," *Governmental Accounting Journal,* vol. 6, no. 2, pp. 47-60, 2020.
[14] L. A. Z. A. Alsaid and C. A. Ambilichu, "Performance measurement in urban development: unfolding a case of sustainability KPIs reporting," *Journal of Accounting in Emerging Economies,* vol. 14, no. 1, pp. 48-74, 2024, doi: 10.1108/JAEE-09-2021-0299.
[15] S. S. N. Gardazi, A. F. S. Hassan, and M. S. Bello, "A Bibliometric Analysis of Corporate Sustainability Performance: Current Status, Development and Future Trends," *International Journal of Professional Business Review,* vol. 8, no. 3, p. e0367, 03/14 2023, doi: 10.26668/businessreview/2023.v8i3.367.
[16] G. Esmaeili Kia and R. Mohtasham, "Public Sector Balanced Scorecard, Effectiveness of Accounting Information Systems and Sustainable Performance in the Public Sector - A Case Study of Government Offices in Bushehr," *Motale'at-e Tajrobi-ye Hesabdari Mali (Empirical Studies in Financial Accounting),* vol. 20, no. 77, pp. 219-259, 2023.
[17] F. Ghadami Gharghorughi, "Comparative analysis of accrual-based accounting systems (Case: Mashhad Medical University)," in *2nd International Management Conference*, Tehran, 2018: Allameh Khoei Institute.
[18] R. Gol Mohammadi and N. Azmodeh, "Accrual accounting's impact on financial performance (Case: Razi Vaccine Institute)," in *3rd Annual Management Conference*, Tehran, 2017.
[19] S. Khordyar and S. Mojoodi Niaie Kasmaei, "The role of accounting and accrual basis in accountability systems," in *5th National Conference on Entrepreneurship & Knowledge-Based Business Management*, Babolsar, 2017.
[20] C. C. Lee, "The effect of strategy alliance mechanism on the operating performance of accounting firms," *International Journal of Public Administration,* vol. 46, no. 8, pp. 587-601, 2023, doi: 10.1080/01900692.2021.2005090.
[21] I. Nasamu, "Strategies for Employees to Effect Change to Improve Performance of Public Organizations," *Journal of Accounting Business and Finance Research,* vol. 17, no. 1, pp. 1-9, 2023, doi: 10.55217/102.v17i1.675.