



Quantitative And Qualitative Measurement of Municipal Financial Data by Real-Time Reporting

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| ARTICLE INFO | ABSTRACT |
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| <p>Article History: Received 5 September 2024 Received in revised form 26 November 2024 Accepted 25 December 2024 Available online 30 December 2024</p> | <p>As public organizations, municipalities are responsible for meeting citizens' information needs by presenting their performance in transparent and measurable formats. In addition to standard end-of-period financial statements such as income and expense reports, surplus statements, and balance sheets effective financial management requires the preparation of interim reports at regular intervals during the fiscal period. These include periodic income and expense summaries, comparative analyses with prior periods, annual financial activity charts benchmarked against budget estimates or previous-year results, and detailed fund and bank statements outlining receipts and payments. The advancement of information systems has significantly improved communication, data accessibility, and the capacity for economic analysis, thereby enhancing both national- and local-level policy evaluation. At the municipal level, this enables managers to assess the impact of macroeconomic strategies and local initiatives on urban economic development. Given the critical role of financial information in decision-making and organizational success, this research explores the feasibility of monitoring municipal financial data through a real-time accounting and reporting system. Using hypothesis testing as the primary analytical method, the study evaluates the effectiveness of such systems, with results presented in both tabular and graphical form. The findings offer valuable insights for enhancing transparency, accountability, and strategic decision-making in municipal governance.</p> |
| <p>Keywords: Municipal Finance; Real-Time Accounting; Financial Reporting; Public Sector Management; Economic Indicators; Performance Evaluation; Transparency in Governance</p> | |

1. INTRODUCTION

Democratic systems hinge upon fundamental principles, with accountability standing as a cornerstone [1]. An integral tool for ensuring accountability lies in establishing robust information and financial reporting systems. In Iran, the government, its subsidiaries, municipalities, and non-governmental public institutions collectively form significant components of the public sector [2]. Analyzing the financial reporting of such entities offers insights into the state of financial reporting within the public sector, serving as a primary mechanism to fulfill the accountability of authorities. This analysis also lays the groundwork for enhancing accountability levels. With escalating citizen

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demands for transparency and accountability, leaders in developed and developing nations have been prompted to develop financial reporting systems grounded in accountability principles.

The evolution of municipalities in Iran, striving to increase civic participation and attain self-sufficiency through service provision and fee collection, necessitates precise management and timely decision-making by mayors [3]. The reorientation of municipalities aligns with broader government policies [4]. Analyzing financial statements based on municipal operational budgets becomes imperative to achieve self-sufficiency [5]. This analytical approach empowers authorities and mayors to streamline expenditures, eliminate redundancies, and cultivate accessible revenue streams.

Contemporary society exhibits heightened sensitivity to its future, and municipalities, as public entities, aim to respond to citizen information needs by presenting performance reports in numerical formats [6]. In addition to conventional year-end statements such as income and expense statements, surplus statements, and balance sheets, municipalities generate periodic reports during the financial year. Key among these are reports detailing: 1) Revenues and expenses for the period, compared with the previous period [7]; 2) Financial activity charts for the year, compared with budget estimates or the previous year's activities [8]; and 3) Fund and bank statements, encompassing receipt and payment records [9].

Information systems, particularly economic indicators, play a pivotal role in facilitating communication, economic analysis, and management [10]. As national-level managers evaluate macro-strategic variables and policies, local-level managers must similarly assess these variables' development process and macro-policy impacts on the city and its economy [11]. Today, financial information is acknowledged as a paramount factor in gaining organizational prowess. Success in the economic arena is attributed to organizations effectively harnessing financial information as a tool for principled decision-making [12].

Simultaneously, municipalities are duty-bound to clarify information for users, including citizens, city councils, and relevant authorities. Establishing a robust financial reporting system is crucial for fulfilling municipalities' accountability responsibilities. Financial information serves diverse groups, such as city councils, citizens, and government officials linked to municipalities. The responsiveness or lack thereof of this system reflects its efficacy. A well-functioning system comprises interlinked components, and any malfunction within this chain may jeopardize the entire financial reporting system. The design and implementation of an effective reporting system necessitate substantial knowledge and experience, which appears to be lacking in various municipalities in Shiraz. To address this gap, both short-term and long-term study programs are imperative to establish a theoretical framework and metropolitan accounting principles for government financial reporting. This research delves into the potential of monitoring municipal financial information through a real-time reporting-based accounting system.

1.1. Organizational Accounting

Accounting, a pivotal service activity, facilitates decision-making and resource management within economic units by providing financial information to stakeholders [13]. It functions as an information system wherein financial events are accepted as input, processed, and subsequently presented through various reports, a tangible output of the system [14]. Organizational accounting, specifically, constitutes a system that gathers and disseminates financial information pertaining to the activities of government ministries and institutions [15]. This process aims to inform national decision-making and exercise control over the execution of annually approved programs and the allocation of financial resources by the government [16].

Furthermore, organizational accounting is conceptualized as an information system encompassing a set of methods and rules. This system is designed to systematically collect, classify, and summarize financial information related to an institution, be it governmental or commercial. The culmination of this process manifests in comprehensible financial statements and reports. These summarized financial insights are made available to the organization's managerial echelons, empowering them to make informed decisions based on a thorough understanding of the institution's financial landscape.

1.2. Sustainable Financial Information and Its Objectives

Financial reforms are imperative to cater to the diverse and at times conflicting rights, interests, and demands of individuals and authorities involved with for-profit units. In response to these needs, for-profit units generate various financial reports primarily intended for external use. The United States Board of Mayors emphasizes that government accountability is rooted in the citizens' "right to know." Financial reporting serves the principal objective of articulating the economic impact of financial events and operations on the condition and performance of a unit. These reports cater to external parties, aiding them in making informed financial decisions related to the business unit. The fundamental means of conveying this information is through basic financial statements, which represent the culminating products of the accounting and financial reporting system. These overarching goals can be categorized into three main groups:

Decision-Making Support: Financial reporting should furnish information that proves valuable for investors, actual and potential creditors, and other users in making decisions.

Cash Accessibility and Future Prospects: It should provide users with information enabling them to assess the availability of cash, evaluate the timing, and comprehend the uncertainties surrounding future cash inflows to the business unit.

Resource Representation: Financial reporting should offer insights into the economic resources of the commercial zone, the rights to these resources, and the effects of events, activities, and conditions altering these resources and rights.

Beyond these primary objectives, the financial reporting system must also fulfill additional goals, including:

Performance Evaluation: Assessing the organizational unit's performance by measuring net profit and its components based on the accrual assumption.

Financial Management Determinants: Determining the means of providing and spending funds, borrowing and repaying debts, distributing dividends, and other resource allocation decisions that may impact the liquidity and ability of the commercial unit to fulfill its obligations.

Managerial Insights: Offering results of managers' opinions on the resources of the business unit entrusted to the shareholders.

The attainment of these objectives necessitates the provision of diverse information about the business unit across various categories. Consequently, the financial reporting objectives mandate the presentation of a comprehensive set of several separate financial statements, each playing a significant role, both individually and collectively, in achieving the overarching goals of financial reporting.

1.3. Municipality And Sustainable Information

In Iran, a municipality functions as a local executive body overseen by a mayor, tasked with the management of the city. Responsibilities encompass maintaining cleanliness, waste management, issuing construction permits, toll collection, and ensuring order and traffic control. Municipality operates as a public, non-governmental institution, functioning akin to a self-governing super corporation with jurisdiction. The term municipality refers to the governing body within this administrative entity. Evolving beyond its historical role, the modern municipality is now seen as a civic institution originating from the people. Its mandate extends beyond traditional activities, encompassing cultural, welfare, and environmental initiatives, aligning with the pursuit of sustainable urban and human development.

In the Iranian context, municipalities, rooted in the local fabric and entrusted with services, construction, and urban redevelopment, operate with relative autonomy due to financial independence from the central government and public budget. To fulfill its legal obligations, a municipality employs various lawful means to collect revenues and manage expenditures. Notably, municipalities have expanded their roles to include compulsory education, care for vulnerable populations, and city security. The very existence of municipalities reflects the central government's inclination towards decentralization, enabling it to delegate local services and affairs, freeing resources for larger national initiatives.

Accountability in municipalities entails a dual obligation. Firstly, there is the responsibility to execute specific actions within the municipal scope, and secondly, an obligation to provide justifiable reasons for these actions. While executing actions falls under responsibility, accounting for these actions is a matter of accountability. The reporting and accountability process in municipalities hinge on the relationship between municipal officials and information users, as reflected in financial reports. This relationship underscores the significance of financial reporting, bestowing the right to access financial information and knowledge upon the public.

Crucially, municipalities bear the vital responsibility of ensuring the social and economic well-being of their communities, guided by laws and regulations set by government authorities. This responsibility carries substantial social and economic implications, emphasizing the pivotal role of municipal organizations in serving the public interest.

1.4. Users Of Financial Reports And Their Information Needs

The International Federation of Accountants (IFAC) categorizes users of government and municipal financial reports as follows:

Legislature: Members of parliament play a crucial role in directing and controlling financial affairs and public resources through the enactment of laws. Financial reports serve as a tool for assessing the government's performance in preserving and managing financial resources, ensuring compliance with laws and regulations, and evaluating the overall financial state and performance of the government.

Citizens, Taxpayers, Voters, Groups, and Service Recipients: These individuals and entities are primary users of financial reports. Taxpayers, as contributors to government financial resources, seek information on how these resources are utilized. Additionally, they are interested in details regarding non-tax financial resources.

Investors and Creditors: This category of users requires information to assess the government's ability to repay debts on the scheduled due dates.

Governments and International Organizations Providing Financial Resources: The information needs of these users align with those of investors and creditors.

Financial and Economic Analysts: Public media, financial analysts, and economic analysts analyze government financial information, offering insights and analysis to users.

Senior Management: While senior managers are internal users with access to detailed internal reports, external financial reports remain valuable, providing useful information for managing the financial affairs of the institutions under their supervision.

1.5. Features, Improvements, And Application of Municipal Accounting

Municipal accounting, a subset of government accounting, integrates accounting principles with relevant laws and regulations, emphasizing the matching, gathering, and integration of techniques. This amalgamation is a political, social, and economic imperative, especially in the broader context of planning and management. Key goals and considerations include:

Political and Social Organization: The alignment of accounting principles, methods, and laws with political, social, and economic goals is crucial for effective planning and management.

Comprehensive Planning and Management: The fusion of accounting principles and standards with laws and regulations enables comprehensive planning and management strategies.

Legal Compliance: Adherence to legal requirements ensures that municipal accounting practices align with established regulations, fostering transparency and accountability.

Economic Considerations: Integrating economic considerations into municipal accounting practices enhances the ability to address economic challenges and opportunities.

Continuous Improvement: Recognizing the dynamic nature of municipal accounting, a commitment to continuous improvement is essential for adapting to evolving financial landscapes.

In essence, the amalgamation of accounting principles with legal frameworks in municipal accounting serves as the foundation for effective governance, facilitating transparency, accountability, and responsive financial management within the municipal domain.

1.5.1. Self-sufficiency of Municipalities

The imperative to enhance public participation and foster self-sufficiency in municipalities necessitates effective management and timely decisions by mayors. Aligning with government policy, achieving municipal self-sufficiency mandates a meticulous analysis of financial statements based on program budgets. This analytical process empowers municipal officials to identify and eliminate costly and redundant expenditures that adversely impact the regional economy. Emphasis should be placed on cultivating long-term revenue streams with positive economic and social implications. Financial statements, including income and expense statements, surplus statements, balance sheets, and budget variances, serve as crucial tools in understanding and rectifying the financial health of municipalities.

1.5.2. Exchange of Experiences Between Municipalities

Facilitating the exchange of reports and financial statements among municipalities offers mayors and officials insights into the financial situations of similar entities. This exchange enables a comparative analysis of activities, providing a platform for learning from theories and experiences of other municipalities. Such sharing of information enhances municipal efficiency, allowing for the identification of strengths and weaknesses in executive units. It also aids in evaluating the performance, competence, and integrity of employees, thereby contributing to effective management.

1.5.3. Subsidized Assistance to Low-Income Municipalities

While the government's fundamental policy centers on municipal self-sufficiency, providing subsidized assistance to low-income municipalities in deprived regions is deemed essential. This support, derived from the public budget, addresses the goals and challenges faced by these municipalities. Determining the aid amount involves a meticulous examination of financial statements to rank municipalities based on their financial foundation. The findings are then presented to the Ministry of Interior or relevant authorities for decision and approval, ensuring targeted and effective financial assistance.

1.5.4. Accounting Characteristics of Municipalities

Municipal accounting, as a facet of government accounting within a commercial framework, shares common characteristics with government accounting. However, municipal accounting possesses distinct features. Unlike government executive bodies drawing program budget credit from the national budget, municipalities serve as both creators of obligations and payers of incurred expenses. In their books, municipalities record expenses, and the income is reflected in one financial unit. The municipal revenue account, whether centralized or decentralized, is identified separately from the general treasury, marking a key divergence from the centralized structure observed in government accounting.

1.6. Principles And Standards Of Municipal Accounting

The American National Government Accounting Committee recommends adhering to the following general principles for maintaining municipal accounts:

Centralization of Accounting Operations: All accounting operations should be centralized under the supervision of a designated head or accounting officer. This individual is responsible for overseeing all accounts and preparing financial reports.

Double-Entry System: Accounting records must be maintained using a double-entry system. All financial operations should be summarized and consolidated in a single ledger. Additional branch offices may be established as needed.

Consistent Financial and Accounting Terminology: Ensure the consistent and continuous use of financial and accounting terms across all financial documents, including budgets, accounting records, and financial reports, using a standardized set of concepts.

Classification According to Different Funds: Municipal accounting should be classified and organized according to various funds. Consistent procedures should be applied when arranging statements related to any specific category or type of funds.

Recommended Classification of Funds: Funds should be classified as follows:

- Independent accounts for public funds
- Independent accounts for trust funds
- Revolving accounts
- Special revenues
- Funds from the sale of bonds
- Municipal utilities (e.g., electricity and water)
- Independent accounts for funds from bonds

Independent Auditing at Regular Intervals: An independent auditor should examine all municipal accounts at regular intervals to ensure transparency and accountability.

Regular Financial Reporting: Financial reports should be prepared at regular intervals, ideally monthly or more frequently, providing the mayor with comprehensive information on the financial situation, budget, credits, and other essential details.

Uniform System for Similar Municipalities: Municipalities that are close in proximity and share similarities in terms of income and population should consider adopting a single, standardized system for managing their financial affairs and maintaining their accounts. This approach promotes consistency and facilitates streamlined financial management practices across comparable municipalities.

2. RESEARCH METHOD

The current research employs a descriptive approach to monitor municipal financial information, relying on a real-time reporting-based accounting system and assessing its legal suitability. The research methodology involves obtaining necessary data, and the investigation is descriptive, focusing on data collection procedures. The Friedman hypothesis test is utilized to rank factors, making this research both descriptive and survey-based. The research specifically investigates the optimal reporting capability of the accounting information system in various regions of Shiraz municipalities, employing pairwise comparisons within the Analytic Hierarchy Process (AHP) technique for data collection and analysis.

2.1. Statistical Population

The statistical population for this research comprises experts and individuals with relevant experience in Shiraz, including respected university professors. The expert community is composed of individuals actively engaged in Shiraz municipality or associated fields. Given the extensive nature of the statistical population, the sample size was determined using the following formula:

2.2. Sample Size Calculation

In the formula provided, considering a confidence factor of 0.95, the critical value of 1.96 is determined. Assuming a maximum probability value ($p=1-q$) of 0.5 and an error margin of 0.1, the calculated sample size is 70. It's important to note that when there is no information available regarding the population variance and the probability of success or failure of the variable, Morgan's table can be utilized to estimate the sample size.

2.3. Gender Distribution in the Statistical Population

The results indicate that among the respondents, 58 individuals identify as male, while 12 individuals identify as female. This gender distribution within the statistical population provides insights into the composition of the sample group, allowing for further analysis and interpretation of research outcomes.

Table 1. Chart of gender of respondents

| Statistical indicators | | | gender |
|---------------------------------|----------------------|-----------|--------------|
| Cumulative frequency percentage | Abundance percentage | Abundance | |
| 85%/82 | 85%/82 | 58 | the man |
| 100% | 17.15% | 12 | woman |
| - | 100% | 70 | total number |

Table 2. Chart of respondents' education

| Statistical indicators | | | The amount of education |
|---------------------------------|----------------------|-----------|-------------------------|
| Cumulative frequency percentage | Abundance percentage | Abundance | |
| 10% | 10% | 7 | Ph.D |
| 47%/1 | 37%/1 | 26 | Master's degree |
| 4.81% | 3.34% | 24 | expert |
| 100% | 18.6% | 13 | Kardani |
| 100% | 0 | 0 | other |
| - | 100% | 70 | total sum |

Table 3. Chart of respondents' work history

| Statistical indicators | | | service history |
|---------------------------------|----------------------|-----------|-------------------|
| Cumulative frequency percentage | Abundance percentage | Abundance | |
| 5.7% | 5.7% | 4 | Less than 5 years |
| 38.6% | 32.9% | 23 | 5 to 9 |
| 82.9% | 44.3% | 31 | 10 to 14 |
| 98%/1 | 14.3% | 10 | 15 to 25 |
| 100% | 2%/9 | 2 | More than 25 |
| - | 100% | 70 | Total sum |

2.4. Questionnaire And Validation

Following the creation of the initial questionnaire design and subsequent confirmation of its validity and reliability, the questionnaire was distributed. Content validity was established through scrutiny by professors and individuals with expertise in the subject matter. To measure the reliability of the questionnaire, statistical analysis was conducted using SPSS software. Both the overall reliability and internal consistency of the questionnaires were assessed separately.

The obtained value for Cronbach's alpha, exceeding 0.7, indicates that the questionnaire demonstrates acceptable reliability. This statistical measure affirms the consistency and dependability of the questionnaire, bolstering the confidence in the data collected through this research instrument.

Table 4. Cronbach's alpha

| Cronbach's alpha value | Number of variables |
|------------------------|---------------------|
| 0.88 | 70 |

2.5. Inferential Data Analysis

In this section, descriptive statistical tools were utilized to analyze the questionnaire data, aiming to achieve the research objectives. The process involved factor analysis and an initial screening of factors through statistical tests and analyses, with SPSS software employed for the statistical analyses. The Kolmogorov-Smirnov (K-S) test was used to assess the normality of data distribution. The one-sample Wilcoxon test, equivalent to the non-parametric t-test, was employed to test the basic hypothesis of each factor where the assumption of normality was rejected.

Following the initial screening, the Relative Importance Index (RII) was calculated and prioritized for all factors. Finally, Friedman's hypothesis test was applied.

3. TEST OF HYPOTHESES

The research comprises three hypotheses, each examined separately through the chi-square test using SPSS software and manual calculations.

3.1. Test of the First Hypothesis

a) Title and Determination of Statistical Assumptions (H0, H1): The first hypothesis posits that the credit system of Shiraz metropolis municipalities lacks the ability to control the costs of annually approved programs, plans, and projects.

- H0: The credit system of Shiraz metropolis municipalities lacks the ability to control costs and approved programs, plans, and projects annually.
- H1: The credit system of Shiraz metropolis municipalities lacks the ability to control costs and approved programs, plans, and projects annually.

b) Calculation of Test Statistics: The chi-square test was conducted manually and with SPSS software at a significance level of 0.05. With degrees of freedom (d.f) equal to 36, the calculated chi-square value surpassed the critical chi-square value of 51 at a 0.05 significance level. Consequently, H1 is accepted with 95% certainty, indicating that the credit system in Shiraz metropolis municipalities lacks the ability to control annually approved programs, plans, and projects. The test results highlight significant disparities between the current credit system and the expected features and capabilities of an ideal system, particularly in realistic forecasting of revenues and expenses for budgeting purposes. Deficiencies in expense and revenue classification, as well as inadequately defined seasons and scales, contribute to the conclusion that the credit system in Shiraz metropolis municipalities falls short in controlling annually approved programs, plans, and projects.

3.2. Test of the Second Hypothesis

a) Title and Determination of Statistical Hypotheses (H0, H1): The second hypothesis posits that the accounting system employed in Shiraz metropolis municipalities lacks the capability to report financial statements optimally.

- H0: The government accounting system used in the financial reporting of Shiraz metropolis municipalities does not have the ability to report financial statements optimally.
- H1: The government accounting system used in the financial reporting of Shiraz metropolis municipalities lacks the ability to report financial statements optimally.

3.3. Test of the Second Hypothesis

b) Calculation of Test Statistics: The chi-square test was conducted manually and with SPSS software at a significance level of 0.05. The calculated chi-square value is 128.2, surpassing the critical chi-square value of 69.82 at a 0.05 significance level. Consequently, H1 is accepted with 95% confidence, indicating that the government accounting system used in the financial reporting of Shiraz metropolis municipalities lacks the ability to report financial statements optimally. The test results reveal significant inadequacies in the government accounting system, including shortcomings in identifying and recording income and expenses on a cash basis, insufficient representation of information related to fixed assets and depreciation calculation methods, a lack of continuous employee training, and the absence of an integrated software system. These factors collectively contribute to the conclusion that the government accounting system used in the financial reporting of Shiraz metropolis municipalities significantly deviates from the desired and metropolitan standards for financial reporting, lacking the necessary capabilities for optimal financial reporting.

3.4. Test of the Third Hypothesis

a) Title and Determination of Statistical Hypotheses (H0, H1): The third hypothesis suggests that the treasury system in Shiraz metropolis municipalities lacks the anticipated capability of an effective system for receiving and paying funds.

- H0: The treasury system in Shiraz metropolis municipalities does not possess the necessary capability for receiving and paying funds.
- H1: The treasury system in Shiraz metropolis municipalities lacks the expected ability of an effective system for receiving and paying funds.

b) Calculation of Test Statistics: The chi-square test, conducted manually and with SPSS software at a significance level of 0.05, yielded a chi-square value of 101.067. With degrees of freedom (df) equal to 20, the calculated chi-square value surpassed the critical chi-square value of 31.4 at a 0.05 significance level. Therefore, H1 is accepted with 95% confidence. The test results highlight that the treasury system used in Shiraz metropolis municipalities lacks the capabilities expected from an effective system for receiving and paying funds.

In detail, the inadequacies of the treasury system in coordinating receiving and paying operations, depositing and withdrawing operations, and facilitating internal controls, coupled with inefficiencies in expediting partial purchases in metropolitan municipalities, contribute to the conclusion that the treasury system used in the financial reporting system of Shiraz metropolis municipalities differs significantly from an optimal receiving and payment system. This incongruity impacts the meaningful functioning of the system, indicating that the treasury system in Shiraz municipalities lacks the anticipated capabilities for a system of receiving and paying funds.

3.5. The Main Hypothesis and Conclusion

The main hypothesis, derived from the collective results of hypotheses 1 to 3, posits that there is a significant difference between the acceptable key factors in an optimal financial reporting system based on accountability and the current state of those factors in the financial reporting system of Shiraz metropolis municipalities.

The findings from testing hypotheses 1 to 3 indicate a substantial disparity between the desired state of three key factors Credit System, Government Accounting System, and Treasury System and their current implementation in the financial reporting system of Shiraz metropolis municipalities. As a result, it can be concluded that the financial reporting system of Shiraz metropolis lacks the expected capabilities for serving as an effective tool for accountability.

To elaborate further:

1. The credit system, as observed in the municipalities of Shiraz metropolis, falls short in effectively controlling approved plans and projects.
2. The government accounting system in use does not provide the necessary tools for robust reporting within the metropolitan municipalities.

3. The treasury system utilized lacks the anticipated capabilities to facilitate internal controls effectively.

In light of these findings, the financial reporting system of Shiraz metropolis fails to meet the necessary criteria for accountability. For the financial reporting system to function as a primary tool for accountability, improvements are essential, specifically in enhancing the credit system's ability to control plans and projects, providing adequate reporting tools through the government accounting system, and augmenting the treasury system to facilitate internal controls.

4. CONCLUSION AND RESULTS ANALYSIS

This research focused on the feasibility of monitoring municipal financial information through a real-time reporting accounting system. The objective was to analyze the state of the financial reporting system in Shiraz municipalities and propose suitable solutions for improvement in terms of financial accounting systems, credit assurance, and the treasury system.

The results obtained from the hypothesis tests and subsequent analysis are summarized below:

First Hypothesis:

- Hypothesis: The credit system of Shiraz metropolis municipalities lacks the ability to control the costs of the program, plans, and projects approved annually.
- Result: The Chi-square test rejected H0 and confirmed H1, indicating that the credit system lacks the ability to control costs effectively.

Second Hypothesis:

- Hypothesis: The government accounting system used in the financial reporting of Shiraz metropolis municipalities lacks the ability to report financial statements optimally.
- Result: The Chi-square test rejected H0 and confirmed H1, suggesting that the government accounting system lacks the ability to optimally report financial statements.

Third Hypothesis:

- Hypothesis: The treasury system of Shiraz metropolis municipalities lacks the necessary ability expected from a proper system of receiving and paying funds.
- Result: The rejection of H0 and confirmation of H1 implies that the treasury system lacks the necessary capabilities expected for receiving and paying funds optimally.

In summary, the research findings indicate significant shortcomings in the credit system, government accounting system, and treasury system of Shiraz metropolis municipalities. These deficiencies hinder their ability to control costs, report financial statements optimally, and manage funds effectively. Therefore, improvements are essential in these areas to enhance the financial reporting system and enable it to fulfill its role as a reliable tool for accountability.

The overall conclusion emphasizes the need for targeted reforms in the financial reporting system of Shiraz metropolis municipalities to address the identified limitations and enhance their financial management capabilities.

Table 5. Summary of research findings

| Support or reject hypothesis | The title of the hypothesis | Hypothesis number |
|------------------------------|---|------------------------------|
| confirmation | The credit system of the municipalities of Shiraz metropolis lacks the ability to .control the costs of the program, plans and projects approved annually | The first hypothesis |
| confirmation | The government accounting system used in the financial reporting of the municipalities of Shiraz metropolis lacks the ability to report financial .statements in an optimal way | The second hypothesis |
| confirmation | The treasury system of the municipalities of Shiraz metropolis lacks the .necessary ability expected from a proper system of receiving and paying funds | The third hypothesis |

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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