



THE IMPACT OF BUDGET INTEGRATION IN THE GOVERNMENTAL ACCOUNTING SYSTEM ON ACHIEVING FINANCIAL SUSTAINABILITY

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Article history:		Abstract:
Received:	20 th May 2025	The goal of the study is to determine how the government accounting system functions as a mediator in the link between budget integration and enhancing financial sustainability in the Iraqi Ministry of Higher Education. This is accomplished by developing a theoretical framework for the primary and secondary variables of the current study. Then, the variables are evaluated in the Iraqi Ministry of Higher Education by examining how integrating budgets with the aforementioned dimensions improves financial sustainability in the ministry while elucidating the role of the government accounting system as a mediator. By creating a questionnaire and distributing it to a sample of 150 financial professionals at the Iraqi Ministry of Higher Education using a thorough inventory procedure, the researcher relied on the descriptive analytical approach. Data was gathered and analyzed using the SPSS software. The investigation came to the following key conclusions: Given the existence of a practical system for government courts in the Iraqi Ministry of Higher Education, as well as the existence of a statistically significant contribution and governmental contribution to enhancing financial sustainability, the integration of budgets to financial sustainability has a statistically significant impact. This effect is beneficial, and the sort of partial mediation is compatible with the budgets of sustainable financial institutions
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INTRODUCTION

All establishment operations are outlined in the expected general budget. The extended projected financial plan establishes the company's financial and operational objectives. Specialized sub-budgets address numerous parts of the establishment's activities in the comprehensive budget. The most crucial are operating and capital budgets. Operational budgets determine the resources needed for each production process, set timelines for implementation, monitor actual performance to compare it to goals, and help ensure production efficiency, sustainability, and resource efficiency. Capital budgets plan and execute the establishment's capital projects, which include buying new fixed assets or developing existing assets to increase efficiency and productivity. They set a timeline for each project, allocate funds, and monitor and evaluate its performance to ensure success.

According to the chart of accounts and accounting regulations, the government accounting system comprises all information, processes, and analytical data linked to the institution's operations. The establishment must follow this complete advice. Budgeting systems and their integration fundamentally affect accounting systems. With rising economic challenges, budget integration's role in improving the government accounting system's financial performance, financial planning, and financial strategies to overcome economic challenges must be highlighted.

Financial sustainability requires planning, a competent accounting system, and coordinated budgeting. Budget estimation relies heavily on planning. The planning budget quantifies the organization's financial and operational objectives for a certain time. It monitors all parts of company operations and compares actual performance to objectives to find discrepancies and take remedial action. It also combines activities across departments and divisions and increases employee engagement in planning and execution.

1- Study's issue and questions

The Iraqi Ministry of Higher Education struggles to achieve financial sustainability. This research examines how budget integration and the governmental accounting system can help. Every business, public or commercial, needs a budget



for planning, management, and performance assessment. To grow and compete, companies need accurate budgets that reflect financial performance and accounting system efficiency to face future problems and make educated choices. The key question explains the research problem:

- Does budget integration in its aspects increase financial sustainability in the Iraqi Ministry of Higher Education?
 - Does the Iraqi Ministry of Higher Education integrate budgets with their dimensions in the governmental accounting system (documentation group, accounting processes, accounting guide, financial statements)?
- Is the government accounting system (documentary group, accounting processes, accounting guide, financial statements) improving?

2-Study hypotheses

The statistical hypothesis estimates or proposes the link between two or more variables and provides a temporary response to the study's issue and questions. First, the research model was used to construct hypotheses linking its variables to assess influence:

First: Direct-effect theories

First major hypothesis:

Financial sustainability in the Iraqi Ministry of Higher Education at a moral level ($0.05 \geq \alpha$), this includes: the contribution of the integration of general budgets in strategic planning, the contribution of the integration of operational and capital budgets in enhancing the ability to monitor financial performance and achieving balance between academic and financial objectives, the extent to which the integration of the budgets applied meets the development requirements of academic and administrative activities, senior management's awareness of the importance of budget integration in improving financial efficiency and academic performance, and the extent to which the participation of different administrative levels in the process of preparation and planning to achieve efficiency and effectiveness in the allocation of resources within universities.

Second major hypothesis

Budget integration significantly impacts the accounting system in the Iraqi Ministry of Higher Education, with a significance level of ($0.05 \geq \alpha$) in the dimensions of documentation, procedures, guides, and financial statements.

Third major hypothesis:

Statistically significant impact of government accounting system aspects on financial sustainability in Iraqi Ministry of Higher Education ($0.05 \geq \alpha$).

Fourth major hypothesis:

Budget integration within the governmental accounting system significantly improves financial sustainability in the Iraqi Ministry of Higher Education ($0.05 \geq \alpha$).

3-Study Objectives

The present research seeks to determine how the governmental accounting system mediates budget integration and financial sustainability in Iraq's Ministry of Higher Education. The research also has numerous additional goals:

1. Developing a theoretical framework for the study's primary and sub-variables (budget integration, government accounting system, and financial sustainability) and their intellectual and conceptual underpinnings.
2. Assessing Iraqi Ministry of Higher Education research variables:
 - Assessing budget integration across the stated dimensions.
 - Assessing the government accounting system in its aspects.

Assessing financial sustainability improvement.

3. The examination of budget integration with factors to improve financial sustainability in the Iraqi Ministry of Higher Education.

4. Evaluation of budget integration's effects on the Iraqi Ministry of Higher Education's governmental accounting system (documentary group, accounting processes, accounting guide, financial statements).

5. Statement of how the governmental accounting system (documentary collection, accounting processes, accounting guide, financial statements) improved financial sustainability in the Iraqi Ministry of Higher Education. The governmental accounting system (documentary group, accounting procedures, accounting guide, financial statements) mediates budget integration and financial sustainability in the Iraqi Ministry of Higher Education.

4-Study importance

4-1: Theory matters:

The research is theoretically significant because it is the first to address the integration of budget systems with their dimensions collectively to explain the change in improving financial sustainability due to the governmental accounting



system. Weak scientific references in this field make this study an important reference for future research, expanding scientific research horizons in accounting information systems and their management,

4-2: Practicality.

Evaluating the integration of budgets in the Iraqi Ministry of Higher Education helps develop existing budget systems, propose improvements to increase their effectiveness, and provide information and practical evidence for Ministry of Higher Education and other government decision-makers. It also evaluates the impact of the governmental accounting system on budget integration efficiency and financial performance, analyzes the relationship between budget integration and the Ministry of Higher Education's strategic goals, and evaluates its contribution to such goals.

5-Research community with sample:

The Iraqi Ministry of Higher Education's financial and accounting staff will be randomly selected to assess budget integration's impact on financial sustainability in the presence of the governmental accounting system.

First requirement:

The creation and kinds of budgets

Prophet Joseph (peace be upon him) utilized budgets to manage grain resources in Egypt. It helped ancient Egyptians preserve crops and survive droughts. Budgeting became vital for managing nations, governments, and enterprises' finances as civilizations grew. Budgeting grew intimately tied to financial and economic policies in the 20th century, helping achieve social and economic objectives and allocate investments to key areas. Due to its role in planning and coordinating efforts, it has become an essential tool in managing institutions. As businesses grow and operations become more complex, a detailed financial plan is needed to estimate revenues and expenses. The budget is essential for planning and assessing the institution's financial and operational performance. A precise numerical estimate of projected income and costs sets the institution's objectives for a given time period. It also facilitates performance monitoring and plan comparison. It's converting the institution's strategic objectives into figures. It decides and distributes resources to meet these objectives across organizational units. It also helps evaluate and keep managers responsible for meeting objectives.

Originally, "budget" meant a tiny paper bag in French. This word came to mean a government expenditure plan in finance. This became popular in 18th-century England. The budget system was hard to follow at first since the emphasis was on collecting money rather than spending it. Complex political and social events, such as king-parliament fights, shaped how public money was administered, linking the budget system to political system progress.

[1] Belkacem, Boualam (2020), Printed lectures for third-year Financial Management majors in the LMD Bachelor's program, specifically for the budgetary control course, University of Algiers, Faculty of Economic Sciences, Commercial Sciences, and Management Sciences, Department of Management Sciences, Algeria, p.3.

The researcher can observe that budgeting underpins every institution's operation. Despite its prominence, it confronts bureaucracy and future forecasting issues. It must be adaptable, data-driven, and supported by management and staff to succeed. It is a crucial planning tool, but data and analysis must be updated often.

Prepare Public Budgets.

Budget planning is crucial to every organization's strategic objectives, whether public or private. Each budgeting strategy has pros and cons. Choosing the best budget preparation process affects management's capacity to meet financial objectives. New methodologies are being created to fit with economic and social developments and achieve sustainable development objectives in the state's general budget preparation process. A competent budget can anticipate future changes and recommend suitable responses, improving the institution's flexibility and capacity to adjust to environmental changes.

Studies on budgeting technique evolution show that old approaches no longer match firms' evolving business demands. Traditional hierarchical and restrictive budgeting approaches cannot keep up with business's fast changes, according to recent studies. These systems coordinated resource allocation, but they couldn't handle the dynamic corporate environment's constant adjustments. In the fast-changing corporate environment, conventional budgeting systems lack the flexibility to adapt to new circumstances. To respond to constant change, companies need greater flexibility. Due to the fast growth of technology, more study is needed to uncover best practices and the newest trends in technology-based budgeting, which benefits academics and professionals. The fast-paced corporate world requires firms to be more flexible and responsive to rapid changes and disruptions, making traditional budgeting processes less effective.

SECOND requirement:

Government accounting system idea

Government accounting is a specific accounting information system with many major goals. Government accountability tracks and records all financial transactions to safeguard public monies from theft and waste and assure their proper



use.

Government accounting plans and evaluates government expenditures to maximize state financial resources. Transparency and accountability: Government accounting provides accurate and complete state financial information.

To function successfully, the governmental accounting system must comply with laws and regulations. Official accounting must follow the constitution and financial legislation of the nation. Accounting should be closely linked to the governmental budget. Spending data must be clear and precise in the accounting system. Independent auditors should check government accounts periodically. To compare financial performance among government divisions, accounting methods should be standardized.

Due to the structure and goals of government agencies, government accounting differs from commercial accounting. Some key aspects are:

Public service: Government institutions serve the community rather than make a profit, which influences financial reporting and information. Government entities must also follow tight rules and regulations that specify their powers and obligations while preparing financial reports.

- No private ownership: Government organizations have no shares or bonds, thus no owners desire profits. Taxes and levies fund the government sector, limiting its resources and keeping it accountable.

Government accounting measures public service efficiency and effectiveness, not simply profits. To hold officials accountable for public monies, government financial disclosures must be open and clear[5].

Thus, governmental accounting differs from commercial accounting in that it provides information about governmental entities' performance in achieving their service-oriented goals, securing the resources to deliver these services, and ensuring transparency and accountability in their use. The governmental accounting system is a network of interrelated parts that fulfill goals. It's like a sophisticated machine with smaller sections that execute specific tasks to support the whole. Accountants employ methods, strategies, and instruments to record, summarize, and understand financial transactions. It strives to give precise and trustworthy financial information on a firm or government agency.

The third prerequisite Financial sustainability.

Financial sustainability became part of sustainable development. Financial sustainability stresses the economic and financial components of the economic unit, whereas sustainable development integrates environmental, social, and economic factors. Any economic entity seeking long-term success must balance financial and economic objectives, environmental and social resource preservation, and responsible behaviors.

Financial sustainability is an economic unit's long-term capacity to meet its financial and economic objectives while balancing financial performance with social and environmental responsibilities. Thus, it is the institution's capacity to expand sustainably and remain financially stable.

Financial sustainability requires maintaining cash flow, growing capital for the organization and its members, and providing continuous services to customers.

Financial sustainability is key to microfinance institution development and survival. Balancing finance sources is crucial as organizations rely more on financial markets. Debt financing improves governance and cash flow management, but excessive borrowing may limit the institution's future project investment. Focusing on debt payments may push the organization to make short-term choices that hurt its long-term viability. Financial sustainability helps microfinance firms avoid financial risks in a competitive and complicated regulatory environment.

Microfinance organizations have traditionally been touted as a solution to poverty and financial inclusion. These institutions have significant financial constraints that limit their expansion and sustainability. To enhance their finances, microfinance organizations have to use more loans. Debt financing is inexpensive and increases the company's worth. Debt financing supports shareholders' objective of maximum ROI. These institutions must establish responsible borrowing techniques to improve financial sustainability rather than increase risks.

Financial sustainability and accountability are connected because they need efficient resource management, openness in operations, and the highest governance standards. The institution's capacity to combine profitability with customer demands is shown by good revenue and cost management, adequate liquidity, and appropriate credit risk assessment. Sustainability and accountability are integrated to guarantee the institution's continuity and effectiveness in delivering financial services to beneficiaries while retaining its market credibility.

The study finds that financial sustainability is necessary for financial organizations to invest in the future. The institution may finance new initiatives and expand operations via good financial management and financing diversity. Conversely, excessive debt repayment may restrict the institution's capacity to invest in attractive possibilities, impeding long-term development. Microfinance may help accomplish sustainable development objectives, but it needs...



Exploratory factor analysis was conducted on the items of the budget integration variable, which consists of (35) items, to determine its sub-dimensions. The sample size for standardizing the scale was (150) respondents. The KMO Test value was (0.887), which is a high value, and the error probability value was $0.000 < 0.05$, indicating that the test is significant. Therefore, the sample size is sufficient. Table (1) shows the results of the factor analysis test for the budget integration variable.

Table (1) Value of budget integration saturations on their factors and the latent root, and the variance ratio for each factor

Factors					Single number
The five factor	The fourth factor	The third factor	The second factor	The first factor	
				.821	1
				.799	2
				.728	3
				.721	4
				.685	5
				.661	6
				.659	7
				.625	8
			.705		9
			.698		10
			.684		11
			.672		12
			.656		13
			.646		14
			.638		15
			.598		16
			.546		17
		.727			18
		.703			19
		.691			20
		.685			21
		.666			22
		.625			23
	.697				24
	.688				25
	.654				26
	.636				27
	.605				28
.794					29
.776					30
.746					31
.708					32
.702					33
.678					34
.670					35
1.164	1.189	1.501	4.112	16.557	Raíz latente
%3.324	%3.396	%4.288	%11.748	%47.306	Relación de contraste
				0.887	KMO
				0.000	SIG



Source: Prepared by the researcher based on the results of statistical data analysis using SPSS.

It is clear from Table (1) that the result of the factor analysis test indicates the presence of five factors that satisfy the questionnaire items $>(\pm 0.4)$ and their latent root is greater than one, and these factors are: The first factor: Its latent root reached (16.557) and absorbed (47.306%) of the total variance ratio. This factor was saturated by (8) elements, which are (1,2,3,4,5,6,7,8) in order according to the saturation value on the factor. All the saturations of this factor's elements are significantly positive, with values ranging between (0.625-0.821). The researcher suggests naming this factor: The contribution of public budget integration in strategic planning. The second factor: Its latent root reached (4.111) and absorbed (11.748%) of the total variance, and this factor was saturated by (9) items (9,10,11,12,13,14,15,16,17) respectively according to the saturation value on the factor. All the saturations of this factor's items are significantly positive, ranging between (0.546-0.705). The researcher suggests naming this factor: The contribution of integrating operational and capital budgets in enhancing the ability to monitor financial performance and achieving a balance between academic and financial goals. The third factor: Its latent root reached (1.501) and accounted for (3.396%) of the total variance. This factor was saturated by (6) items, which are (18, 19, 20, 21, 22, 23) in order according to the saturation value on the factor. All the saturations of this factor's items are significantly positive, with values ranging between (0.625-0.727). The researcher suggests naming this factor: the extent to which the integration of applied budgets meets the developmental requirements of academic and administrative activities. The fourth factor: Its latent root reached (1.189) and it accounted for (4.288%) of the total variance. This factor was saturated by (5) items, which are (24, 25, 26, 27, 28) in order according to the saturation value on the factor. All the saturations of this factor's items are significantly positive, with values ranging between (0.605-0.697). The researcher suggests naming this factor: the extent to which the senior management in the ministry recognizes the importance of budget integration in improving financial efficiency and academic performance within universities. The fifth factor: Its latent root reached (1.164) and accounted for (3.324%) of the total variance. This factor was saturated by (7) items, which are (29, 30, 31, 32, 33, 34, 35) in order according to the saturation value on the factor. All the saturations of this factor's items are significantly positive, with values ranging between (0.670-0.794). The researcher suggests naming this factor: the extent of participation of different administrative levels in the preparation and planning process to achieve efficiency and effectiveness in resource allocation within universities. The second axis: the governmental accounting system

Exploratory factor analysis was conducted on the items of the government accounting system variable, which numbered (32) items, to determine its sub-dimensions. The sample size for the scale standardization was (150) respondents. The KMO Test value was (0.865), which is a high value, and the error probability value was $0.000 < 0.05$, indicating that the test is significant. Therefore, the sample size is adequate. Table (2) shows the results of the factor analysis test for the government accounting system variable.

Table (2) The value of the government accounting system saturations on its factors and the latent root, and the variance ratio for each factor

Factors					Single number
The five factor	The fourth factor	The third factor	The second factor	The first factor	
				.737	1
				.678	2
				.615	3
				.562	4
				.551	5
				.548	6



			.514	7
			.472	8
		.813		9
		.728		10
		.664		11
		.659		12
		.634		13
		.622		14
		.606		15
		.499		16
	.755			17
	.734			18
	.699			19
	.688			20
	.686			21
	.659			22
	.633			23
	.596			24
	.461			25
.843				26
.691				27
.665				28
.587				29
.572				30
.561				31
.489				32
2.733	3.272	7.98	9.306	الجذر الكامن
%8.540	%10.226	%24.935	% 29.082	نسبة التباين
			0.865	KMO
			0.000	SIG



Source: Prepared by the researcher based on the results of statistical data analysis using SPSS. It is clear from Table (2) that the result of the factor analysis test indicates the presence of four factors that satisfy the questionnaire items $>(\pm 0.4)$ and have a latent root greater than one, and these factors are: The first factor: Its latent root reached (9.306) and absorbed (29.082%) of the total variance, and this factor was saturated by (8) items which are (1,2,3,4,5,6,7,8) in order according to the saturation value on the factor. All the saturations of this factor's items are significantly positive, ranging between (0.472-0.737). The researcher suggests naming this factor: the documentary group. The second factor: Its latent root reached (7.98) and absorbed (24.935%) of the total variance, and this factor was saturated with (8) elements which are (9,10,11,12,13,14,15,16) in order according to the saturation value on the factor. All the saturations of this factor's elements are significantly positive, ranging between (0.499-0.813). The researcher suggests naming this factor: accounting procedures. The third factor: Its latent root reached (3.272) and absorbed

Improving financial sustainability	Paragraph
.826	1
.813	2
.777	3
.776	4
.756	5
.749	6
.712	7
.695	8
.638	9
.633	10
.619	11
.580	12
.567	13
.559	14
.559	15
8.566	Raíz latente
% 57.104	Relación de contraste
0.832	KMO
0.000	SIG

Source: SPSS-analyzed statistical data by the researcher.

Table (3) shows that a factor saturates questionnaire items $>(\pm 0.4)$ and has a latent root bigger than one. The following are factors:

Its latent root held 8.566 and 57.104 percent of the variance. This factor was saturated with (15) entries, ordered by saturation value: (1,2,3,4,5,6,7,8,9,10,11,12,13,14,15). All item saturations in this factor are positive, ranging from 0.559 to 0.826. Researchers recommend calling this factor Financial Sustainability Improvement.

Fourth: Study tool stability

The study used Cronbach's alpha to measure the coherence of the research sample members' responses, as the reliability factor indicates the quality of the study tool (the questionnaire) items, their internal consistency, stability, and suitability for measuring what they were designed to measure. Table (4) shows the findings.

Table 4: Cronbach's Alpha

Pruebas de fiabilidad	
Alfa Crowe Nabach	Número de artículos
.9820	82

Source: SPSS statistical analysis results

Table 4 shows that the internal consistency coefficient, which measures dependability, was 0.982, which is above 0.60 for administrative sciences. This is regarded a very good grade, demonstrating the dependability of the research

instrument and the consistency between the questionnaire questions, implying its reliability and the feasibility of relying on it for statistical analysis. Test results for each axis in the table indicate this.

Table 5: Study axes Cronbach's Alpha

Valor de Alfa Cronbach	Variables de estudio	figura
0.910	La contribución de la integración de los presupuestos públicos a la planificación estratégica	1
0.880	La contribución de la integración de los presupuestos operativos y de capital en la mejora de la capacidad de monitorear el desempeño financiero y lograr un equilibrio entre los objetivos académicos y financieros.	2
0.853	La medida en que la integración de los presupuestos aplicados cumple con los requisitos de desarrollo de las actividades académicas y administrativas.	3
0.866	El grado en que la alta dirección del Ministerio comprende la importancia de integrar los presupuestos para mejorar la eficiencia financiera y el rendimiento académico dentro de las universidades.	4
0.907	El grado en que los diferentes niveles administrativos participan en el proceso de preparación y planificación para lograr la eficiencia y la eficacia en la asignación de recursos dentro de las universidades.	5
0.886	Grupo Documental	6
0.886	Procedimientos Contables	7
0.929	Directorio de Contabilidad	8
0.892	Finanzas القوائم	9
0.921	Mejorar la sostenibilidad financiera	10

Fuente: Elaboración propia a partir de los resultados del análisis estadístico de los datos utilizando el programa SPSS

Presentation of the study results and discussion

Introduction:

In this chapter, the descriptive statistical study of the sample respondents' answers will be examined, followed by the analytical statistical study of the research questions and hypothesis testing leading to the study results, and the presentation of a set of recommendations and suggestions on the study topic.

Chapter One: Description of the Study Variables

This section provides a description of the study variables and the questionnaire items for each variable as follows:

- Descriptive statistics for the first dimension of the independent variable (budget integration): The contribution of public budget integration to strategic planning

Table (10) Descriptive Statistics for the Variable of the Contribution of Public Budget Integration to Strategic Planning

Nivel	Materialidad	Rango	Desviación estándar	Media aritmética	Pregunta	figura
Alto	%79.6	2	.839	3.98	Contribuye a mejorar la precisión de la planificación estratégica	1
Alto	%79.8	1	.705	3.99	Orientar mejor los recursos financieros hacia el logro de los objetivos estratégicos.	2
Alto	%79.8	1	.700	3.99	Asignar los recursos financieros de manera eficaz de acuerdo con las prioridades del Ministerio.	3
Alto	%79.8	1	.803	3.99	Reducir la brecha entre los planes estratégicos y los presupuestos disponibles en el Ministerio de Educación Superior	4
Alto	%79.4	3	.709	3.97	Flexibilidad de la planificación financiera para responder a las necesidades cambiantes del Ministerio	5

Alto	%79.8	1	.728	3.99	Mejorar la transparencia en la distribución de los recursos financieros	6
Alto	%79.6	2	.709	3.98	Lograr una sostenibilidad financiera que respalde los objetivos a largo plazo	7
Alto	%79.8	1	.705	3.99	Capacidad para monitorear el rendimiento financiero y equilibrar las metas académicas y financieras	8
Alto	%79.6		0.579	3.98	Índice general	

Source: Prepared by the researcher based on the results of statistical data analysis using SPSS.
- Descriptive statistics for the second dimension of the independent variable: The contribution of integrating operational and capital budgets in enhancing the ability to monitor financial performance and achieve a balance between academic and financial objectives.
Table (11) Descriptive statistics for the dimension of the contribution of integrating operational and capital budgets in enhancing the ability to monitor financial performance and achieve a balance between academic and financial goals.

Nivel	Materialidad	I Rango	Desviación estándar	Media aritmética	Pregunta	figura
Alto	%81	1	.689	4.05	Proporcionar una visión integral de la asignación de recursos a las actividades cotidianas y a los proyectos de inversión a largo plazo	9
Alto	%79.2	6	.767	3.96	Mejorar la coordinación entre las distintas entidades del Ministerio de Educación Superior	10
Alto	%78.8	7	.707	3.94	Se puede realizar un seguimiento de la distribución de los recursos financieros de cada departamento y alinear los gastos con los objetivos académicos y de investigación.	11
Alto	%79.4	5	.741	3.97	Supervisión de cómo se asignan los fondos y se logran los objetivos educativos	12
Alto	%80.6	2	.718	4.03	Facilita la documentación del progreso y la presentación de informes periódicos sobre proyectos de capital	13

Table No. (20) shows an error probability of $0.000 < 0.05$ and a F value of 41.068. Since the test is significant, we reject the null hypothesis and accept the alternative, which states that "there is a significant effect between the integration of budgets in their mentioned dimensions and the improvement of financial sustainability in the Iraqi Ministry of Higher Education."

The regression coefficient is 0.767, indicating 76.7% relationship between the variables. The coefficient of determination is 0.588, meaning that budget integration with its dimensions explains 58.8% of improving financial sustainability in the Iraqi Ministry of Higher Education, while institutional culture, applied information systems, human capabilities, applied regulations, and laws explain the rest.

Table 20 is used to determine the regression equation for the first major hypothesis.
 $C1+dx2+e x3+fx4+Y=a+bx$

Y is financial sustainability improvement.

a1.247 is positive, X represents the contribution of integrating public funds into strategic planning, $b=0.17$ is positive, and the error probability value (dependent -2) $=0.849 > 0.05$ is not significant. Thus, incorporating public finances into strategic planning does not immediately increase financial sustainability in the Iraqi Ministry of Higher Education. By tying the budget to the strategic plan, financial objectives are clearly and realistically specified, enabling more effective resource allocation to accomplish them, improving financial sustainability. It is not included in the equation because



linking the budget to the strategic plan allows monitoring of plan implementation and comparison of actual performance to goals, improving spending control and financial sustainability.

X1 helps integrate operational and capital budgets to assess financial performance and balance academic and financial objectives.

Since $c = 0.475$ is positive and error probability (dependant -2) $= 0.000 < 0.05$, it is significant. X2 measures how well budget integration fits academic and administrative development needs. Since $d=0.090$ is positive and error probability (dependent -2) $=0.275 >0.05$, it is not significant. This implies that the Iraqi Ministry of Higher Education's financial viability is unaffected by budget integration for academic and administrative growth. However, a part of the budget may fund innovative activities and research initiatives, which grow the educational sector and promote financial sustainability. Thus, it is excluded from the equation. X3 variable: How much ministry top management understands budget integration's role in enhancing university finances and performance.

$E=0.095$ is positive and has an error probability (dependant -2) of $0.184 >0.05$, making it insignificant. This suggests that top management's recognition of budget integration's role in promoting financial efficiency and academic achievement in universities does not immediately influence ministry financial viability. Instead, it fosters change, encourages employees to adopt new practices, promotes fair resource distribution among educational institutions, fosters competency development, and sets performance indicators to measure budget integration effectiveness, which improves financial sustainability. Thus, it is excluded from the equation. X4 How much various administrative levels participate in preparation and planning to improve university resource allocation.

Since $F=0.20$ is positive and error probability (dependant -2) $=0.810 >0.05$, it is not significant. This indicates that the amount to which various administrative levels participate in the preparation and planning process to achieve efficiency and effectiveness in university resource allocation does not immediately influence ministry financial sustainability. Participation helps workers understand the ministry's objectives and budgetary restrictions, which informs resource allocation choices. Participating in budget decision-making gives workers a stronger ownership of the budget, which raises their commitment to meeting objectives and improving financial sustainability. Thus, it is excluded from the equation.

At a level of $(0.05 \geq a)$, the multiple linear regression equation for the impact of budget integration and its components on financial sustainability in the Iraqi Ministry of Education is as follows:
 $Y=1.247 +0.475 x_2$

That instance, the variable for enhancing financial sustainability grows by 0.475 when the Iraqi Ministry of Higher Education integrates funds to fulfill academic and administrative development needs by one unit. This confirms the first primary premise, which is favorable since the ministry can now manage its financial resources more efficiently and effectively, contributing to its long-term strategic objectives. Budget integration is key to financial sustainability. Studies [1] (Ahmed, 2024) and [2] (Marai; Marai, 2021) support this finding, while Study [3] (Murad, 2022) found a link between the general budget and oil income, adversely impacting financial sustainability in Algeria from 2000 to 2020.

The second major hypothesis

A statistically significant effect of budget integration on the Iraqi Ministry of Higher Education's accounting system (documentary group, procedures, guide, financial statements) is observed at a significance level of $(0.05 \geq a)$. Multiple linear regression tested the second primary hypothesis, as shown in Table .

Table 21 indicates a significant effect of budget integration on the governmental accounting system (documentary group, accounting procedures, accounting guide, financial statements) ($p\text{-value} < 0.05$, $F\text{-value} = 59.013$), rejecting the null hypothesis and accepting the alternative.

The regression coefficient is 0.820, indicating an 82% relationship between the variables. The coefficient of determination is 0.672, meaning that budget integration with its dimensions explains 67.2% of the variable of the governmental accounting system, while other factors like organizational structure, accounting policies, employee efficiency, training, and others explain the rest.

Table 21 estimates the regression equation for the second key hypothesis:

$$Cx_1+dx_2+ex_3+fx_4+Y=a+bx$$

Government accounting system Y.

X The contribution of public budget integration to strategic planning = $a0.864$ with a positive value, $b=0.079$ with a positive value, the error probability value (dependent -2) $0.342 >0.05$ is not significant, meaning it does not directly affect the Iraqi Ministry of Higher Education's official accounting system. Integration maximizes resource use to achieve the ministry's strategic objectives. Success of the budget integration process might attract investments to the



educational sector, which improves the state accounting system, thus it is not included. X1 helps integrate operational and capital budgets to assess financial performance and balance academic and financial objectives.

Since $c=0.436$ is positive and error probability (dependant -2) $=0.000 < 0.05$, it is significant.

X2 measures how well budget integration fits academic and administrative development needs.

$d=0.034$ is positive, but error probability (dependent -2) $=0.656 > 0.05$, making it insignificant. This implies that the Iraqi Ministry of Higher Education's state accounting system is unaffected by how well implemented budgets fulfill academic and administrative development needs. When budgets match demands, resources are distributed more effectively, avoiding waste, assuring proper usage, enhancing openness and accountability, and encouraging innovation. This improves the government accounting system, hence it's not included.

X3 variable: How much ministry top management understands budget integration's role in enhancing university finances and performance.

Since $E=0.212$ is positive and error probability (dependant -2) $= 0.002 < 0.05$, it is significant.

X4 How much various administrative levels participate in preparation and planning to improve university resource allocation.

Since $F=0.023$ is positive and error probability (dependant -2) $=0.766 > 0.05$, it is not significant. Various administrative levels' engagement in the preparation and planning process to achieve efficiency and effectiveness in resource allocation within universities does not immediately influence the ministry's governmental accounting system. Participation may reveal efficiency and cost-saving potential. Early employee engagement helps identify possible issues and provide remedies, preventing financial catastrophes and improving the governmental accounting system. Thus, the equation does not include it

Here is the multiple linear regression equation for the impact of budget integration and its dimensions on the accounting system in the Iraqi Ministry of Education at a level of $(0.05 \geq \alpha)$:

$$Y = 0.864 + 0.436 x_1 + 0.212 x_3$$

Integrating operational and capital budgets improves the Iraqi Ministry of Higher Education's ability to monitor financial performance and balance academic and financial goals by one unit, increasing the governmental accounting system's variable by 0.436. As senior management's understanding of budget integration's role in boosting Iraqi universities' financial efficiency and academic performance rises by one unit, the governmental accounting system variable rises by 0.212.

The second fundamental hypothesis is validated, as integration unifies and organizes accounting records, making auditing and analysis easier. It also guarantees that all staff follow the same accounting methods, decreasing mistakes and enhancing accuracy. The detailed accounting handbook helps workers make good financial decisions. Integration improves financial statement accuracy and transparency, enabling decision-makers make good decisions. This conclusion matches [1] (Al-Banna; Zaghloul; Mohamed, 2023), and few research have examined budget integration and the government accounting system.

Third major hypothesis

Government accounting system factors significantly impact budgetary sustainability in Iraqi Ministry of Higher Education $(0.05 \geq \alpha)$.

Table (22) indicates a significant test, rejecting the null hypothesis and accepting the alternative: "Governmental accounting system has a significant effect on financial sustainability in Iraqi Ministry of Higher Education at a significance level of $(0.05 \geq \alpha)$." The regression coefficient is 0.817, indicating an 81.7% relationship between the variables. The coefficient of determination value is 0.668, meaning the governmental accounting system variable with its dimensions explains 66.8% of the variable for improving financial sustainability, while other factors like financial risk management, comprehensive financial planning, technology investment, and others explain the rest. According to Table 22, the estimated regression equation for the third primary hypothesis is: $Cx_1 + dx_2 + ex_3 + Y = a + bx$

Y is financial sustainability improvement.

The documentary group variable X has a positive value ($a=0.922$) and a positive value ($b=0.358$), with an error probability value (dependant -2) $= 0.000 < 0.05$, indicating significance. Accounting process variable X1 Since $C=0.004$ is positive and error probability (dependant -2) $=0.962 > 0.05$, it is not significant. This implies accounting methods indirectly increase financial sustainability. They assist evaluate the institution's financial performance periodically, identifying strengths and deficiencies and remedial steps. They also assist determine activity costs, enhancing efficiency and decreasing wasteful expenses, improving financial sustainability. Thus, the regression equation does not include it. The accounting standard variable is X2.

Since $d=0.167$ is positive and error probability (dependant -2) $=0.011 < 0.05$, it is significant X3 variable finances.

Since $E=0.253$ is positive and the error probability (dependant -2) $= 0.000 < 0.05$, it is significant.

A multiple linear regression equation was created to assess the influence of the governmental accounting system on financial sustainability in the Iraqi Ministry of Higher Education, with a significance threshold of $(0.05 \geq a)$:

$$Y = 0.922 + 0.358x_1 + 0.167x_2 + 0.253x_3$$

The variable for enhancing financial sustainability in the Iraqi Ministry of Higher Education rises by 0.358 when the document group is applied one unit more. One unit of accounting guidance implementation raises the ministry's financial sustainability variable by 0.167. As the ministry uses more financial statements, financial sustainability improves by 0.253.

This supports the third primary theory and has a beneficial impact. This is because the ministry's federal accounting system helps detect and reduce financial risks. Transparency and accountability attract investors and build public confidence, improving financial sustainability. This outcome matches Bisogno; Ballesteros (2019) and Hameed; Mashhadani (2024).

Second, indirect influence hypotheses:

Main hypothesis #4:

Budget integration within the governmental accounting system significantly improves financial sustainability in the Iraqi Ministry of Higher Education $(0.05 \geq a)$.

According to Table 23 (error probability $= 0.000 < 0.05$, F value $= 153.239$), the test is significant, rejecting the null hypothesis and accepting the alternative (budget integration collectively improves financial sustainability with the mediating variable, governmental accounting system). In the existence of the governmental accounting system, budget integration improves financial sustainability by 82.2% (regression coefficient $= 0.822$). In the presence of the mediating variable, the governmental accounting system, the budget integration variable explains 67.6% of the financial sustainability improvement variable, while internal control, financial resource management, and others explain the rest.: $Cx_1 + Y = a + bx$

Y is financial sustainability improvement.

X is the balancing integration variable, with $a=0.818$ and $b=0.248$ positive values, and the error probability value (dependant -2) is 0.001, which is less than 0.05, making it significant.

Government accounting variable X1.

Since $C= 0.556$ is positive and error probability (dependant -2) $= 0.000 < 0.05$, it is significant.

Thus, the multiple linear regression equation for the impact of budget integration, in its dimensions collectively, on improving financial sustainability in the presence of the mediating variable of the governmental accounting system in the Iraqi Ministry of Higher Education is:

$$Y = 0.818 + 0.248x_1 + 0.556x_2$$

As the application of budgets increases by one unit, the Iraqi Ministry of Higher Education's sustainability improvement increases by 0.248 in the presence of the governmental accounting system, and in the presence of budget integration, financial sustainability improves by 0.556.

Thus, the fourth primary hypothesis is validated, with a favorable impact.

The result:

The governmental accounting system (documentary group, accounting procedures, accounting guide, financial statements) significantly impacts budget integration and financial sustainability in the Iraqi Ministry of Higher Education (p-value < 0.05).

And to meet three conditions:

1. Testing the second primary hypothesis shows that the independent variable (budget integration) has a combined influence on the intermediate variable (government accounting system).
2. The first primary hypothesis test must validate the combined impact of the independent variable (budget integration) on the dependent variable (financial sustainability improvement).
3. The third condition is that the independent variable (budget integration) affects the dependent variable (improvement of financial sustainability) in the presence of the mediating variable (government accounting system). Testing the fourth main hypothesis confirms this.

Comparing the regression equations in Figure (6)'s three scenarios shows:

The regression coefficient for the mediator variable's influence on the dependent variable is 0.817, and the independent variable's effect with the mediator variable is 0.822. The regression coefficient for the direct influence of the independent

variable on the dependent variable without the mediator is 0.676, with a statistically significant error probability value of $0.000 < 0.05$.

The mediator variable mediates the independent variable and the dependent variable because the direct impact (0.676) is closer to zero than the mediator effect (0.822). As the impact is statistically significant, partial mediation is considered.

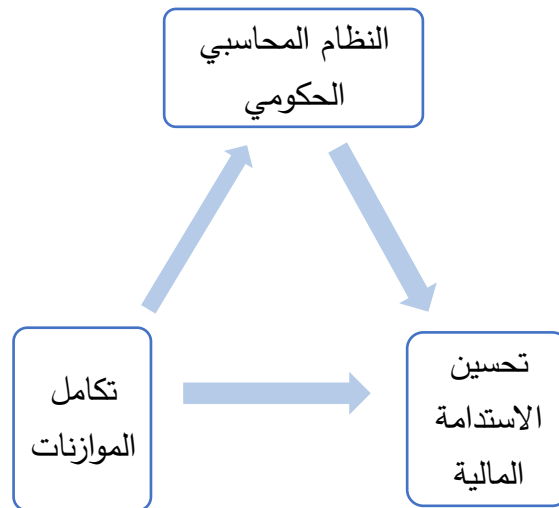


Figure (6) shows how the governmental accounting system affects budget integration and financial sustainability in the Iraqi Ministry of Higher Education.

Results of study:

1. Public budget integration to strategic planning at the Iraqi Ministry of Higher Education averaged 3.98, which is high.
2. Integrating operational and capital budgets improved financial performance monitoring and academic-financial balance by 4.00, which is high.
3. The average degree of applied budget integration meeting academic and administrative development was 6.97, which is strong.
4. The average ministry senior management understanding of budget integration's impact on university financial efficiency and academic achievement was 4.01, which is strong.
5. Average administrative level engagement in preparation and planning to improve university resource allocation efficiency and effectiveness was 3.95, which is high.
6. The average documentation group at the Iraqi Ministry of Higher Education was 4.04, high.
7. The Iraqi Ministry of Higher Education has high accounting processes, averaging 3.99.
8. The average Iraqi Ministry of Higher Education accounting index was 3.96, high.
9. Iraqi Ministry of Higher Education financial statements averaged 4.01, which is high.
10. The average Iraqi Ministry of Higher Education financial sustainability improvement was 4.03, which is strong.
11. Budget integration positively impacts financial sustainability at the Iraqi Ministry of Higher Education ($.05 \geq a$).
12. Budget integration positively impacts the accounting system in the Iraqi Ministry of Higher Education at a statistical significance level of (0.05 $\geq a$).



13. Government accounting has a statistically significant influence.

Advice about studying:

1. Making sure budget integration directly supports the ministry's strategic objectives and teaching personnel on its principles and implementations.
2. Modernizing the accounting system to keep up with technology and environmental changes, simplifying accounting operations, decreasing administrative tasks, and using big data analysis to boost efficiency.
3. Developing tools and systems to better connect the budgeting and accounting systems and ensuring the regular exchange of data between the budget integration system and the government accounting system to ensure accurate and up-to-date decision-making.
4. Promoting scientific research and development in accounting and financial resource management in educational institutions and applying research findings to accounting policies and practices.
5. Publishing the ministry's financial information quarterly and using good governance principles to financial resource management to increase openness and accountability.
6. Cooperating with international organizations, using international accounting and financial resource management knowledge, and adopting international accounting standards to increase transparency.

Given the importance of the government accounting system in improving budget integration and financial sustainability, performance indicators should be developed to link the accounting system to these two areas, and periodic assessments should be done to determine how changes to the system affect financial sustainability.

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