

THE EFFECT OF THE APPLICATION OF BALANCED PERFORMANCE MEASUREMENT DIMENSIONS IN STRATEGIC DECISIONS IN GOVERNMENT UNIVERSITIES

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Abstract

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A balanced scorecard (BSC) with strategic decisions plays a vital role in achieving the effectiveness of business organizations. However, this paper aims to determine the impact of implementing the dimensions of the BSC on strategic decision-making in Jordanian universities. The study population included all Jordanian universities, while the sample consisted of 218 respondents from all managers working at administrative levels. The research concluded that there is a statistically significant effect on the dimensions of the BSC with its four axes (the financial axis, the beneficiaries' axis (students, the local community), the growth and learning axis, and the internal operations axis) in making strategic decisions in Jordanian universities, where Al-Jubouri (2018), Tomizh et al. (2022) and Mazzuto et al. (2022) supported this finding. It is recommended to apply the BSC axes correctly and accurately during application in a way that clearly and comprehensively improves the strategic decision-making process.

Keywords: Balanced Scorecard Dimensions, Strategic Decision-Making, Jordanian Universities

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1. INTRODUCTION

Business development has led to the diversity of activities carried out by organizations, in addition to the multiplicity of products they offer. This trend has led to the complexity of administrative processes such as planning, organizing, directing, and controlling, as well as making and making decisions, especially strategic ones. Modern methods enable organizations to verify the efficiency of

the available resources in achieving the desired goals. The way to this is through information methods that help in the search for the best of those uses at the lowest cost of production because sound information leads to sound and desired decisions (Fakhr & Al-Dulaimi, 2013; Alnesafi, 2022).

Management accounting has developed a range of methods and techniques to keep pace with technological development, including the balanced scorecard (BSC), which contributed to adding a new

thought or approach to the management and development of organizations. It has also received great attention from those whose primary orientation has become the search for appropriate modern administrative approaches and methods, and to what extent practical reality needs modifications and changes in its systems and culture to become more appropriate to the requirements of its application (Khreisat et al., 2011; Patitsa et al., 2022).

The decision-making process depends on choosing between a group of alternatives to choose the most appropriate alternative, and the strategic decision represents the best strategic alternative among the alternatives that enable organizations to achieve their goals. Organizations will be more successful in achieving their goals if they can control their strategic decision-making process (Shareet, 2013, Al-Zaqeba & Al-Rashdan, 2020a). Since strategic decisions constitute the main basis for the success or failure of organizations, the process of making strategic decisions has a pivotal role in achieving their success, and it is one of the topics that receive attention because of their effective impact on the work of organizations (Mamun, 2022). The ability of organizations to survive depends on the good management of their strategic decisions and their application to the maximum extent possible to achieve their strategic goals (Heider, 2008; Monyai et al., 2022).

The BSC with strategic decisions plays a vital role in achieving the effectiveness of business organizations (Mazzuto et al., 2022). As strategic decision-making, implementation, and evaluation are among the tasks of contemporary senior management, and its role is reflected in its ability to achieve returns, such as a reflection of its overall performance, it is difficult to evaluate strategic decisions through funding ratios that measure the performance of senior management.

The BSC as a "business strategy dashboard" is one of the most important contemporary systems for the survival and success of universities in their environment. The investment in the systems (methodologies and technologies) that support the work of organizations reflects the commitment to achieving excellence and leadership in the transition toward a knowledge economy (Koutoupis et al., 2022). The BSC methodology depends on the formulation and implementation of the university's strategies and is concerned with transforming those strategies into strategic objectives and translating them into indicators that lead to the evaluation of the strategy in full upon its implementation and an indication of deviations in the direction of the university from its planned path towards excellence and targeted leadership (Tomizh et al., 2022).

From this point of view, the problem of intellectual and field study lies in the continuous pursuit of Jordanian universities to make a change in their policy in order to achieve their transition from the current situation to the situation in which they seek to be in the future, where traditional methods are no longer keeping pace with this transformation. In addition to the emergence of modern and advanced methods compatible with technological development, one of them is the BSC method, which is one of the unconventional

methods. The use of the BSC helps in making strategic decisions in Jordanian universities. Since the BSC seeks to plan and take appropriate decisions to achieve the university's goals, the research raises the following question:

RQ: Is there an impact of applying the dimensions and axes of the balanced scorecard in making strategic decisions in Jordanian universities?

The rest of the paper is structured as follows. Section 2 reviews the relevant literature as well as provides the hypothesis development. Section 3 analyses the methodology that has been used to conduct empirical research on the effect of applying balanced performance measurement on the dimensions of strategic decisions at Jordanian universities. In Section 4, the analyses with results were given. Finally, the discussion is provided in Section 5 and the conclusion is presented in Section 6.

2. LITERATURE REVIEW

2.1. Balanced scorecard

The balanced scorecard (BSC) is a modern management tool introduced by Kaplan and Norton (2001) as one of the concepts used in strategic management (Bochenek, 2019). It provides a complete solution to the weaknesses and ambiguities of legacy management systems that focus only on financial performance, but the BSC adds dimension. On the other hand, this card is an assessment tool and a strategic tool as it uses four axes to analyze the performance of the organization: the financial axis, the consumer axis, the internal operations axis, and the organizational learning axis (Francois-Xavier et al., 2021).

Al-Zwaylif (2018) points out that traditional financial measures are no longer sufficient in today's business environment, and that attention to a broader range of measures such as quality, market size, and customer and employee satisfaction can lead to a better understanding of the factors that influence the financial performance of shopping. Therefore, the BSC represents a framework for implementing its strategies and is considered an evaluation tool and a strategic tool (Nazari-Shirkouhi et al., 2020); because it relies on four axes to evaluate the performance of the organization: the financial axis, the beneficiaries' axis (students, the local community), the internal processes axis, and the growth and learning axis (Sharaf-Addin et al., 2016).

These topics can be summarized as follows. First, the financial axis. The financial axis is an important component of the BSC, and this aspect represents one of the aspects of the BSC that focuses on measuring financial performance in the short term, as it represents the final outcome that takes into account other points of view.

This perspective shows the results of events and decisions and describes the tangible results of the strategy in terms of traditional financial terms such as profitability, return on investment, income growth, and cash flow, and is used to measure financial ratios and others. Other financial ratios may be necessary at some point in the future, such as cash flow in bad conditions (Al-Omari, 2009).

Second, the focus of the beneficiaries (students, the local community). This axis is the core of

the non-financial measures, and the strategic goal to achieve student and parent satisfaction and gain their loyalty results in increasing the university's market share. This theme focuses on the value that the university intends to convey to students and parents. They conduct their affairs to increase educational services and gain the loyalty of students and their intended parents, and the value represents the context in which intangible assets can create value, such as the time-of-service provision and the rating of student and parent satisfaction to keep track of the objectives of this axis (Hussein, 2011).

The third axis is the internal operations axis. It identifies the critical processes that help create and deliver a value proposition. It is one of the most crucial points to consider. It includes the internal processes that must be mastered to ensure the high quality of educational services and the answer to the question, "What must be mastered?". This perspective helps the university to identify the processes that must be mastered to create value for students, and in general, the main objectives of this perspective are to improve processes and relationships with suppliers.

The fourth axis is growth and learning. It is one of the determinants of the organization's success and continuity in competition. It depends on the capabilities and skills of employees in creativity, innovation, ability, ability, development, and growth. The growth and learning perspective identifies the intangible assets that are critical to the strategy and identifies the acquisition of new production technologies. In addition, advanced technology with high efficiency, with the aim of reaching renewable innovations to improve quality and shorten service delivery time. The growth and learning aspect consist of three main components: people, systems, and organizational procedures. The objective of this axis is to identify the human capital, information systems, and organizational climate needed to support value creation in internal operations (Horngren et al., 2015).

Based on the literature review, the BSC is an integrated framework and a comprehensive system for evaluating performance and organizing the work of Jordanian universities within a strategic vision whose function extends to transforming strategic goals into coherent financial and non-financial measures that achieve the vision. The message of these organizations that moved towards applying the BSC to the change in the environment at work is that it relies on financial and other measures that are more interconnected and the interaction between students, their parents, staff, the local community, and the university's internal operations to achieve long-term success.

2.2. Make strategic decisions

The decision-making process is the core of the managerial process and the main effective focus of the study of management and its activities (Sousa et al., 2019). It is a process that is intertwined with all management functions and activities, such as planning, organizing, directing, and controlling. It can be considered a difficult task due to the many complications and obstacles that accompany it. The comparison becomes more difficult with the increase in available alternatives (Kidane, 2012).

The strategic decision-making process determines the main directions of the organization and its future path and depends on its strategic plans (Calabrese et al., 2019). It is considered one of the most important types of decisions, which in turn receives great attention from the top management. The validity of the strategic decision is the foundation for the organization's success and the basic tool that nourishes top management by identifying goals and strategies to achieve them efficiently and on time (Ramljak & Rogošić, 2012).

Strategic decision-making is defined as those decisions regarding the time period that are of great importance (Schildkamp, 2019); because they are far-reaching and affect the later time stages of the work of the organization. It is based on objective strategic plans and the achievement of specific goals and takes into account all the possibilities of the situation and its repercussions (Heider, 2008).

The researcher believes that the strategic decision-making process includes all the far-reaching decisions taken by the administrators and officials in Jordanian universities in terms of content, assuming that there is more than one alternative or solution, and then choosing the best alternative to achieve the desired goals in the most efficient way. The higher administrative levels take objective strategic plans to achieve the set goals and take into account all the possibilities of the situation and the results of this decision.

2.3. Balanced scorecard and strategic decision-making

The BSC is one of the integrated management systems that aim to achieve harmony in the administrative work of employees. As well as the extent to which they possess organizational knowledge that helps improve their abilities to achieve success factors and apply them to the organization (Sharaf-Addin et al., 2016; Al-Zaqeba & Al-Rashdan, 2020a). Since the strategic decision-making process is one of the processes that depends on providing possible information about future situations and knowing the effects that can occur. Thus, formulating goals and strategies capable of implementing the four axes on which the BSC is based (Al-Shatti, 2007).

The BSC mainly focuses on the activities that need to be done to help the organization continue and survive by improving long-term performance and diversifying its work programs based on many indicators such as quality, creativity, innovation, cost, and delivery speed. These aspects require making decisions in accordance with strategic visions and integrated and balanced frameworks in order to achieve the desired goals (Bernard, 2017).

Chen (2011) believes that the stability and safety of the future of business organizations are linked to the safety and correctness of strategic decision-making, and are the main driver in the long run, because each decision and all stages of making a specific strategy consider the decision a link in a chain of decisions. Making inappropriate strategic decisions will lead to a series of wrong decisions across the organization (Al-Zaqeba & Al-Rashdan, 2020b).

According to the researcher, the BSC is one of the administrative models that provides many approaches and methods for managing Jordanian universities to earn appropriate returns by making strategic decisions that take into account the implications of each financial axis, customers, processes, internal stages, individual learning, progression, performance analysis, and benchmarking are all described in terms of how they rely on strategic decisions based on financial and non-financial performance measurements to achieve short- and long-term goals.

2.4. Hypothesis development

The process of strategic performance measurement is also an essential process that is no less important than other managerial processes, such as strategic planning, strategic decision-making, and others. Among the tools used in the field of performance appraisal, which combine measures of financial and non-financial performance, we find the BSC, which was arrived at, after many studies by Kaplan and Norton (1992), which was first discussed at Harvard University and is based on vision. Strategic goals, translated into a system of performance measures, are in turn reflected in the overall strategic interest and the direction that each individual in the organization strives to achieve (Taibaoui & Boderbala, 2019).

Kidane (2012) provides a deep insight into the concept of decision-making and the role of the diverse and critical management accountant in business organizations to enable departments to meet the challenges arising from globalization and change in the business environment in order to assist in the decision-making process of all kinds. Al-Saafani (2012) concluded that the good application of the BSC makes it a successful way to achieve the goals of the organization compared to the senior management's reservation of the right to take decisions and manage the various activities of the organization on its basis.

Tariq and Adeel (2013) found that by focusing on the potential future success through the BSC as an effective tool for evaluating and evaluating company performance, a dynamic management system becomes capable of enhancing, implementing, and driving the company's strategy. According to Kootanaee et al. (2013), the BSC provides a framework for managers to use to link different types of measurements together, where business is viewed from four perspectives: the customer's perspective, the internal business perspective, the perspective of innovation and learning, and a financial (or shareholder) perspective. Using the company's overall strategy as a guide, managers derive three to five goals associated with each perspective. Then they develop specific measures to support each goal. Alnawaiseh (2013) also identified the extent to which commercial banks in Jordan apply management accounting methods, including the BSC in the Jordanian banks, according to the report, use standard management accounting and do not use strategic management accounting or its tools.

Al-Hujailan (2013) concluded that the level of use of the BSC is high, which means the level of influence on the nature, duration, and comprehensiveness of economic decisions was high. While Al-Khadash and Feridun (2006) found that a large percentage of organizations use one of the strategic methods of management accounting, including the BSC, and that the financial managers of these organizations have the highest level of awareness of the importance of using these methods, without this being reflected as a practical application of these methods.

Al-Hosaini and Sofian (2015) noted that many organizations adopt different perspectives appropriate to their functions in line with their vision, mission, and strategic themes. When implementing the BSC framework in higher education institutions, this can be used to monitor their performance and enable them to adapt to emerging challenges that come from implementing key strategies. Al-Khazaleh (2016) concluded that the Jordanian industrial public shareholding companies apply knowledge management to a high degree, that the level of application of the BSC was at a medium degree, and that the financial and non-financial performance was at a medium degree. Odeh (2016) demonstrated that the BSC technology had a positive and ethical impact on the competitive advantage in publicly owned Jordanian industrial enterprises and that improving competitive advantage leads to increased sales, increased profitability, and maximization of owners' wealth in the long run. In addition, Al-Jubouri (2018) has proven the BSC and its four axes (finance, customers, internal processes, and growth and learning) to have a statistically significant impact on improving competitive advantage in Iraqi public shareholding industrial enterprises. Al-Otaibi et al. (2018) also pointed out the importance of defining the requirements for applying the BSC in universities and the extent of the need to define a strategy for its implementation.

Based on the above dictation, the research hypothesis is: *Balanced scorecard dimensions (the financial axis, the beneficiaries' axis (students, the local community), the internal operations axis, and the growth and learning axis) positively effect making strategic decisions in government universities.*

However, research hypotheses are therefore presented as follows:

H1: Financial axis positively effects making strategic decisions in government universities.

H2: Beneficiaries' axis (students, the local community) positively effect on making strategic decisions in government universities.

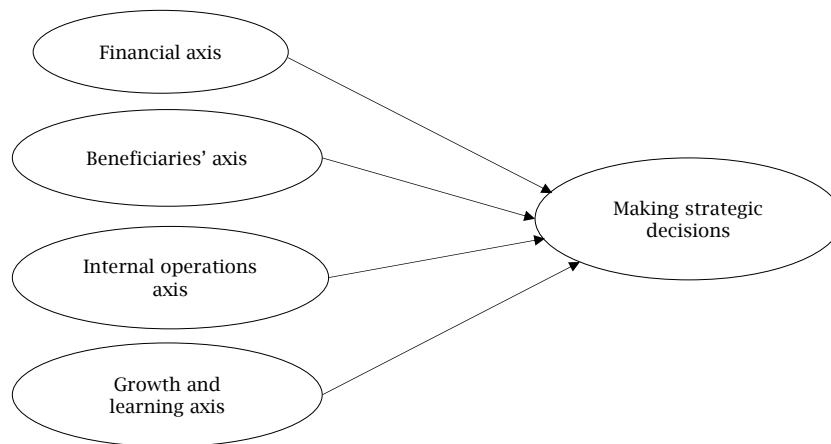
H3: Internal operations axis positively effects making strategic decisions in government universities.

H4: Growth and learning axis positively effects making strategic decisions in government universities.

2.5. Theoretical framework

This paper suggests a theoretical framework as seen in Figure 1. The framework is created particularly for testing the effect of applying balanced performance measurement on the dimensions of strategic decisions at Jordanian universities.

Figure 1. Research model



3. RESEARCH METHODOLOGY

This descriptive study explains a phenomenon or specific condition; it depicts a present situation, which ultimately leads to a certain decision. This type of study has the purpose of affirming the hypotheses established in past studies, concerning the situations at hand. A sufficient amount of data needs to be gathered to enable adequate comprehension of the topic under study. This descriptive research illustrates a current circumstance that finally results in a certain conclusion while explaining phenomena or a particular state. This kind of research aims to validate the hypotheses that develop from previous studies. To allow appropriate comprehension of the issue under study, enough information must be obtained. Likewise, as this paper examined the effect of balanced performance measurement dimensions, academics working in Jordanian government universities were selected owing to their knowledge of the study subject. Selected employees were provided with a self-administered questionnaire. However, a random sample of 367 academic employees was selected.

There were 50 items in the questionnaire in addition to demographic characteristics which are age, years of experience, and academic rank, and two sections which are balanced performance measurement dimensions for section one and strategic decision-making for section two. However, section one includes the financial axis, beneficiaries' axis (students, local community), internal processes axis, and growth and learning axis, while section two includes the dependent variable. However, a 5-point Likert scale was employed to provide reliable findings. Two techniques were used to confirm the validity and reliability of the questionnaire. As a first step, the researcher asked university professors, who are academic specialists, for their feedback and judgments on the questionnaire. Based

on the input and opinions gathered, changes were subsequently implemented.

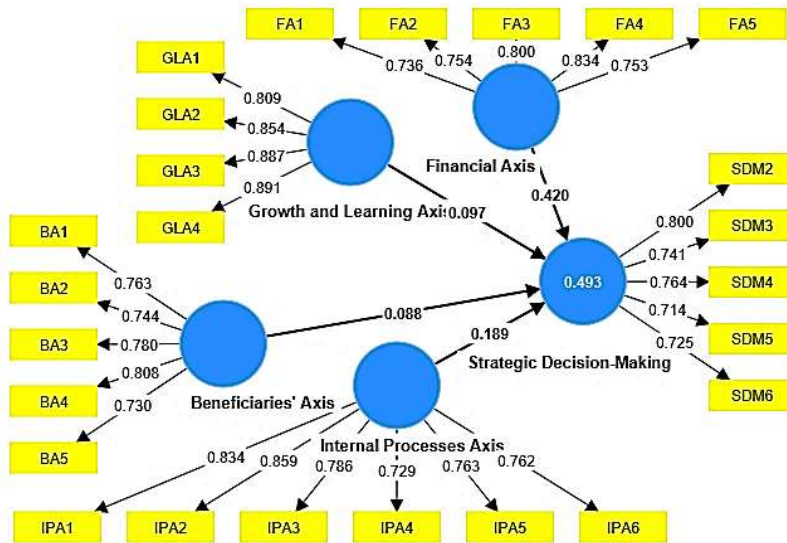
The variables were subjected to an internal consistency test using Cronbach's alpha, and the findings of Cronbach's alpha for the variable were more than 0.70. By this, the questionnaire's reliability and validity were thus affirmed. However, according to the power of analysis, which includes the fewest samples possible given the complexity of the model, the sample size looks to be appropriate. This research used the table from Al-Zaqeba et al. (2022a). Therefore, 218 was the required minimum sample size for this investigation. Additionally, Hair et al. (2017) suggested selecting a sample size greater than 100 in order to obtain valid findings. To obtain reliable findings, this study circulated a total of 583 questionnaires. However, the data analysis was analyzed using PLS-SEM fourth version software.

4. RESULTS

The descriptive analysis showed that the majority of the sample was over 30 years old. In addition, 52.9% of the study sample members have experience (more than 15 years), and it was also found that 65% of the sample are of the academic rank of assistant professor, which is the largest percentage among other ranks. This is an indication that the study sample has good experiences in the field of work whose effects are reflected in their ability to make strategic decisions.

The measurement model and structural model are the first two phases in the partial least squares (PLS) structural equation. The reliability and validity of the conceptual model are explained by the measurement model, whilst the path coefficients between the variables are explained by the structural model. However, the measuring methodology used in this investigation is shown in Figure 2.

Figure 2. Measurement model



The convergent validity of the current model is explained in Table 1. All products have outside loadings greater than 0.70. Whereas some items

were removed due to the variable validity being less than 0.07, as recommended by Hair et al. (2017), others were kept.

Table 1. Outer loading

Items	BA	FA	GLA	IPA	SDM	Questionnaire items
BA1	0.763					Using the BSC increases the success rate of students.
BA2	0.744					Using the BSC improves parental satisfaction.
BA3	0.780					Using the BSC increases student satisfaction.
BA4	0.808					Using the BSC contributes to gaining students' continued loyalty to the university.
BA5	0.730					Using the BSC increases the percentage of continuing graduates in the labor market.
FA1		0.736				Using the BSC increases the university's dependence on self-financing through the practice of investment activities.
FA2		0.754				Using the BSC helps determine the annual budget for the maintenance of facilities and equipment.
FA3		0.800				Using the BSC reduces annual spending rates.
FA4		0.834				Using the BSC increases the proportion of financial resources that come from community partnerships.
FA5		0.753				Using the BSC contributes to increasing the level of satisfaction with the financial performance at the university.
GLA1			0.809			Using the BSC contributes to increasing the university's ability to achieve its vision and maintain its capabilities through development, growth, and creativity.
GLA2			0.854			Using the BSC helps reduce the teaching load for faculty members.
GLA3			0.887			Using the BSC contributes to reducing the percentage of absenteeism of faculty members.
GLA4			0.891			Using the BSC improves the scientific productivity of faculty members.
IPA1				0.834		Using the BSC improves the economic resources of the university.
IPA2				0.859		Using the BSC leads to the innovation of educational services that meet the needs of the market.
IPA3				0.786		Using the BSC contributes to the rapid delivery of new educational services.
IPA4				0.729		Using the BSC leads to flexibility and responsiveness in solving problems facing the university.
IPA5				0.763		Using the BSC helps provide an internal improvement plan at the college level at the university.
IPA6				0.762		Using the BSC helps provide a college-wide crisis management plan for the university.
SDM2					0.800	Providing the necessary information in the strategic planning process for the university's financial resources.
SDM3					0.741	Providing the necessary information in making a decision on capital expansion at the university.
SDM4					0.764	Providing the information required to guide financial investment decisions in university facilities.
SDM5					0.714	Providing the necessary information about the technology used in the university business environment.
SDM6					0.725	Providing the information needed to guide financing and borrowing decisions in the right direction.

Note: BA – beneficiaries' axis, FA – financial axis, GLA – growth and learning axis, IPA – internal processes axis, and SMD – strategic decision-making.

Cronbach's alpha, composite reliability, and average variance extracted are all included in the reliability study (AVE). The data in Table 2 are all

above the threshold values, proving the validity of the investigation of this study.

Table 2. Construct reliability and validity

Dimensions	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Beneficiaries' axis	0.825	0.838	0.876	0.586
Financial axis	0.835	0.838	0.883	0.603
Growth and learning axis	0.884	0.907	0.920	0.741
Internal processes axis	0.880	0.887	0.909	0.624
Strategic decision-making	0.805	0.806	0.865	0.562

When the criteria's discriminant validity is examined (Table 3), the results show that all diagonal values are significantly higher than

the threshold values and higher than the lower values (Tzempelikos & Gounaris, 2017; Al-Zaqeba et al., 2022b).

Table 3. Discriminant validity

Dimensions	Beneficiaries' axis	Financial axis	Growth and learning axis	Internal processes axis	Strategic decision-making
Beneficiaries' axis	0.766				
Financial axis	0.604	0.776			
Growth and learning axis	0.581	0.663	0.861		
Internal processes axis	0.598	0.651	0.681	0.790	
Strategic decision-making	0.545	0.661	0.556	0.597	0.749

The path coefficient between research variables is calculated, after examination of reliability and validity. However, Figure 3 depicted the structural

model of the current study. In addition, the direct relationships between research variables were examined by bootstrapping as follows.

Figure 3. Structural model

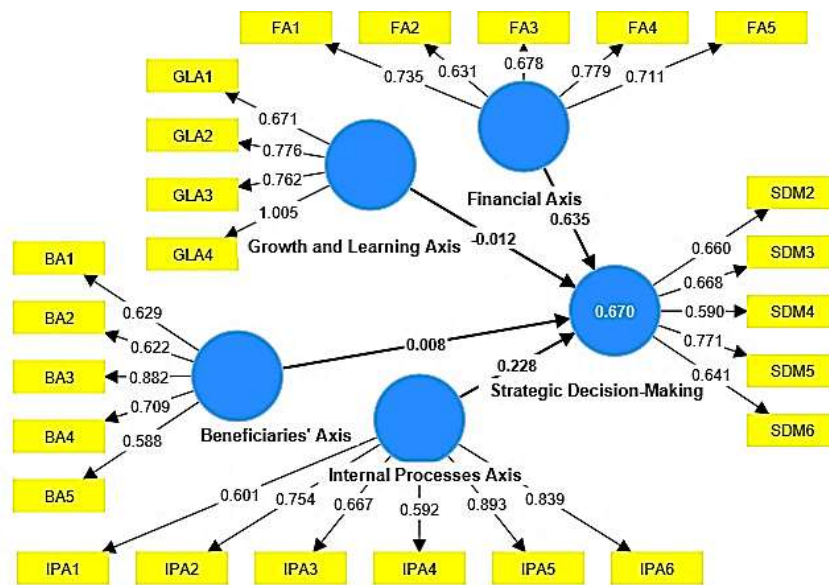


Table 4. Hypotheses testing results

Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation	T-statistics	P-values
Beneficiaries' axis -> Strategic decision-making (H2)	0.658	0.645	0.064	9.925	0.001
Financial axis -> Strategic decision-making (H1)	0.420	0.423	0.079	5.309	0.000
Growth and learning axis -> Strategic decision-making (H4)	0.765	0.764	0.043	18.032	0.008
Internal processes axis -> Strategic decision-making (H3)	0.189	0.192	0.097	1.952	0.051

To test the research hypotheses for the structural routes by using both standardized path coefficients and their significant values. In addition, to determine the significance of the route coefficients using a one-tailed test, this study used the PLS4 approach using the traditional

bootstrapping procedure with 5000 bootstrap samples (Hair et al., 2017). However, the findings support all the hypotheses as indicated in the above table. Overall, the findings demonstrate the strength and significance of construct route coefficients.

The path coefficient (9.925) from the beneficiaries' axis to strategic decision-making is significant and positive (p-value = 0.001, t-value = 9.925), indicating that as the extent of the beneficiaries' axis grows, so does the effectiveness of strategic decision-making. For *H1*, *H3*, and *H4* p-value = 0.000, 0.05, and 0.008 with t-value = 5.309, 1.952, and 18.032, respectively. Regarding *H2*, the suggestion is that as the amount of financial axis grows, so does strategic decision-making. In addition, the suggestion for *H3* and *H4* is that as the amount of growth and learning axis and internal processes axis grows, so does the strategic decision-making.

5. DISCUSSION

This paper aims to access the effect of the four axes of the BSC (finance, beneficiaries (students, local community), internal operations, and growth and learning) on the strategic decision-making at Jordanian institutions. Furthermore, the findings revealed that the dimensions of the BSC and its four axes have a statistically significant impact on strategic decision-making in Jordanian universities. However, this result is consistent with the result of Al-Jubouri (2018) and Al-Khadash and Feridun (2006), which found that a BSC has a significant effect on improving the competitive advantage of the Iraqi public shareholding industrial organizations. The result was also consistent with the result of Nadim's (2013) study, which showed the effect of applying and using the BSC four axes on performance measures based on accounting profit. It was also found that the axes of the BSC contribute to the study of all available alternatives and the analysis of the future financial situation as a basis for making strategic decisions at the university. Moreover, the level of impact on the nature of economic decisions, the duration of economic decisions, and their comprehensiveness was high.

This paper found that the card also contributes to providing the necessary information about the technology used in the university business environment and contributes to providing appropriate financial information for making strategic decisions using information technology, which helps improve future performance. This result is consistent with the result of Kidane's (2012) study, which provided a deep vision of the concept of decision-making and the role of the diverse and critical management accountant in business organizations to enable administrations to face the challenges arising from globalization and change. However, the importance of BSC technique, according to the researcher, is one of the most important management accounting methods used in the assessment process that is based on financial and non-financial performance measurements, and it is greater in work that requires numerous assessment instruments (Al-Khazaleh, 2016; Al-Jubouri; 2018; Al-Otaibi et al., 2018; Koutoupis et al., 2022; Mazzuto et al., 2022; Tomizh et al., 2022). Therefore, it contributes to measuring

the extent of the development of educational services provided by Jordanian universities in a way that leads to the rationalization of their costs and maximizing the returns and returns for these organizations from the results that were reached.

6. CONCLUSION

This study worked to reveal the impact of the dimensions of the BSC on strategic decision-making in Jordanian universities. The use of the card reduces annual spending rates and helps in determining the annual budget allocated to activities. It also contributes to determining the financial strength of the university and increasing the proportion of financial resources derived from community partnerships, in addition to the fact that the use of the card helps determine the annual budget allocated for the maintenance of facilities and equipment.

The study recommended the need to develop management accounting departments and pay attention to training and continuing education to improve the efficiency of management accountants and hold training courses that allow them to identify the BSC and the continuous developments related to it. Finally, the need to pay attention to research in various areas of BSC technology and the need to send workers to attend conferences, workshops, and seminars related to the application of this technology cannot be overstated.

The importance of adopting the BSC lies in creating a balance in the university's operations. It is based on a balance between financial indicators and non-financial metrics represented by staff, internal procedures, and students. This paper is important for the use of modern management techniques, including the BSC, which requires directing management's attention to development. These methods are used in Jordanian universities so that they can be used to perform their functions, such as planning. Monitoring, performance evaluation, and decision-making, in general, are considered strategic decisions in particular because of their comprehensive impact on them and their link to strategic problems with multiple complex dimensions that require in-depth research and analytical capabilities for the future.

The research gains its practical significance in that it comes as a modest attempt to add something scientific to the field. As it supports theoretical and applied studies and research in this field, through the statement of observations and appropriate evaluation, it helps Jordanian universities to play their important role in achieving comprehensive development, as it will contribute to providing a database on the subject that contributes to enriching the Arabic library in general and the Jordanian library in particular.

The results of this study were determined by the fact that they have been studied in Jordanian universities and the fact that they included the impact of applying the dimensions of balanced performance measurement in strategic decisions in them.

REFERENCES

1. Al-Hosaini, F. F., & Sofian, S. (2015). A review of balanced scorecard framework in higher education institution (HEIs). *International Review of Management and Marketing*, 5(1), 26–35. <https://www.econjournals.com/index.php/irmm/article/view/1055>
2. Al-Hujailan, A. M. (2013). *The impact of using modern methods in managerial accounting on the economic decision-making process in cement industries companies listed on the Kuwaiti stock market*. College of Business, Amman Arab University.
3. Al-Jubouri, A. (2018). *The role of human capital in the relationship between modern management accounting techniques and competitive advantage in Iraqi public shareholding industrial companies* [Master's thesis, College of Business, Al al-Bayt University].
4. Al-Khadash, H., & Feridun, M. (2006). Impact of strategic initiatives in management accounting on corporate financial performance: Evidence from Amman Stock Exchange. *Managing Global Transitions*, 4(4), 299–312. https://www.fm-kp.si/zalozba/ISSN/1581-6311/4_299-312.pdf
5. Al-Khazaleh, S. J. (2016). *The impact of management accounting practices on financial and non-financial performance in the light of knowledge management: An applied study on Jordanian public shareholding industrial companies* [Master's thesis, Al al-Bayt University].
6. Alnawaiseh, M. (2013). The extent of applying strategic management accounting tools in Jordanian banks. *International Journal of Business and Management*, 8(19), 32–44. <https://doi.org/10.5539/ijbm.v8n19p32>
7. Alnesafi, A. (2022). The political economy of budget reforms: Evidence of an emerging market. *Journal of Governance & Regulation*, 11(4), 154–167. <https://doi.org/10.22495/jgrv11i4art15>
8. Al-Omari, H. (2009). A balanced scorecard application methodology in Saudi institutions. *Islamic University Journal, Palestine*, 2(3), 49–77.
9. Al-Otaibi, H., Moawed, S. A., & Al-Harbi, M. F. (2018). Nurses' medication errors in the ediatric emergency departme in Saudi Arabia. *Middle East Journal of Nursing*, 101(5829), 1–11. Almanhal. <https://platform.almanhal.com/Files/Articles/117279>
10. Al-Saafani, Abd al-Salam Abdullah Muhammad. (2012). *Using the benchmarking method in strengthening the balanced scorecard to maximize the value of the enterprise, an applied theoretical study in the Yemeni business environment* [Master's thesis, Helwan University].
11. Al-Shatti, A. S. (2007). *The impact of applying the balanced performance measurement model measures in achieving strategic financial performance for banking sector institutions in Jordan (an empirical study)* [PhD thesis, Arab Academy for Banking and Financial Sciences].
12. Al-Zaqeba, M. A. A., & Al-Rashdan, M. T. (2020). Extension of the TPB in tax compliance behavior: The role of moral intensity and customs tax. *International Journal of Scientific and Technology Research*, 9(4), 227–232. USIM Research Repository. <https://oarep.usim.edu.my/jspui/handle/123456789/5563>
13. Al-Zaqeba, M. A. A., & Al-Rashdan, M. T. (2020). The effect of attitude, subjective norms, perceived behavioral control on tax compliance in Jordan: The moderating effect of customs tax. *International Journal of Scientific & Technology Research*. Advance online publication. <https://ssrn.com/abstract=3614298>
14. Al-Zaqeba, M., Al-Khawaja, H. A., & Jebri, I. H. (2022a). The effect of supply chain management on competitive advantage: COVID-19. In *2022 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems (ICETISIS)* (pp. 131–136). IEEE. <https://doi.org/10.1109/ICETISIS55481.2022.9888807>
15. Al-Zaqeba, M., Ineizeh, N. I., Jarah, B. A. F., Hamour, H. M. J. A., & Almatarneh, Z. (2022b). Intelligent matching: Supply chain management and financial accounting technology. *Uncertain Supply Chain Management*, 10(4), 1405–1412. <http://doi.org/10.5267/j.uscm.2022.6.016>
16. Al-Zwaylif, I. (2018, May). Congruence between capital project decision model and performance evaluation model. In V. Ribiere (Eds.), *Proceedings of the 6th International Conference on Management, Leadership and Governance* (pp. 35–40). Academic Conferences and Publishing International Limited.
17. Bernard, H. R. (2017). *Research methods in anthropology: Qualitative and quantitative approaches* (6th ed.). Rowman & Littlefield.
18. Bochenek, M. (2019). Balanced scorecard in strategic management process. *Modern Management Review*, 24(26), 7–16. <https://doi.org/10.7862/rz.2019.mmr.1>
19. Calabrese, A., Costa, R., Levaldi, N., & Menichini, T. (2019). Integrating sustainability into strategic decision-making: A fuzzy AHP method for the selection of relevant sustainability issues. *Technological Forecasting and Social Change*, 139, 155–168. <https://doi.org/10.1016/j.techfore.2018.11.005>
20. Chea, A. (2011). Activity-based costing system in the service sector: A strategic approach for enhancing managerial decision making and competitiveness. *International Journal of Business and Management*, 6(11), 3–10. <https://doi.org/10.5539/ijbm.v6n11p3>
21. Fakhr, N., & Al Dulaimi, K. (2013). *Industrial cost accounting*. The International Scientific House for Publishing and Distribution, and the House of Culture for Publishing and Distribution.
22. Francois-Xavier, M., Noe, N., & Souaibou, S. (2021). The development of steering indicators in public enterprises in Cameroon: An implementation based on contingency factors. *Journal of Contemporary Issues in Business and Government*, 27(1), 1283–1300. https://cibgp.com/pdf_8054_5276b81376e04ad0e8eff5a628d81b96.html
23. Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: A comparative evaluation of composite-based structural equation modeling methods. *Journal of the Academy of Marketing Science*, 45(5), 616–632. <https://doi.org/10.1007/s11747-017-0517-x>
24. Heider, H. J. (2008). Strategic decision in relationship banking performance (analytical study). *Journal of Administration and Economics*, 1(68), 78–95. <https://www.iasj.net/iasj/article/26080>
25. Horngren, C., Sundem, G., & Stratton, W. (2015). *Introduction to management accounting*. Prentice Hall.
26. Hussein, Z. A. (2011). A multidimensional strategic model for performance evaluation (a proposed framework). Working paper presented at the *Second Arab Conference in Management, Creative Leadership in Facing Contemporary Challenges to Arab Management* (pp. 276–289).
27. Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard: Measures that drive performance. *Harvard Business Review*, 70, 71–79. https://steinbeis-bi.de/images/artikel/hbr_1992.pdf

28. Kaplan, R. S., & Norton, D. P. (2001). Transforming the balanced scorecard from performance measurement to strategic management: Part 1. *Accounting Horizons*, 15(1), 87-104. <https://doi.org/10.2308/acch.2001.15.1.87>
29. Khreisat, O. M., Nimer, K. M., & Jawda, A. H. M. (2011). Extent of use of methods of management accounting in Jordanian industrial companies contribute to the general (field study). *Journal of Administration and Economics*, 1(87), 13-37. <https://www.iasj.net/iasj/article/9524>
30. Kidane, F. (2012). Decision making and the role of management accounting function — A review of empirical literature. *Journal of Radix International Educational and Research Consortium*, 1(4), 19-42. https://www.academia.edu/1819493/DECISION_MAKING_AND_THE_ROLE_OF_MANAGEMENT_ACCOUNTING_FUNCTION_A_REVIEW_OF_EMPIRICAL_LITERATURE
31. Kootanaee, A. J., Kootanaee, H. J., Hoseinian, H., & Talari, H. F. (2013). The balanced scorecard, alphabet of the modern management: From concept to implement. *Advances in Management and Applied Economics*, 3(1), 47-60. http://www.sciencpress.com/Upload/AMAE%2fVol%203_1_4.pdf
32. Koutoupis, A. G., Belesis, N. D., & Kampouris, C. G. (2022). Tax and COVID-19 pandemic effects on the financial performance and risk of the hotel industry. *Corporate & Business Strategy Review*, 3(2), 125-137. <https://doi.org/10.22495/cbsrv3i2art11>
33. Mamun, M. (2022). Human resource management practices and organisational performance: Evidence from small and medium-sized enterprises in Australia. *Corporate Ownership & Control*, 19(4), 163-171. <https://doi.org/10.22495/cocv19i4art14>
34. Mazzuto, G., Antomarioni, S., Marcucci, G., Ciarapica, F. E., & Bevilacqua, M. (2022). Learning-by-doing safety and maintenance practices: a pilot course. *Sustainability*, 14(15), 9635. <https://doi.org/10.3390/su14159635>
35. Monyai, P. B., Chivanga, S. Y., Monyai, T., & Ndlovu, S. (2022). The role of communities in innovative water management: Sustainability governance in the emerging country. *Journal of Governance & Regulation*, 11(4), 123-135. <https://doi.org/10.22495/jgrv11i4art12>
36. Nadim, M. S. (2013). *Evaluating financial performance using the balanced score card (test study in Royal Jordanian Airlines)* [Master's thesis, Middle East University].
37. Nazari-Shirkouhi, S., Mousakhani, S., Tavakoli, M., Dalvand, M. R., Šaparauskas, J., & Antuchevičienė, J. (2020). Importance-performance analysis based balanced scorecard for performance evaluation in higher education institutions: An integrated fuzzy approach. *Journal of Business Economics and Management*, 21(3), 647-678. <https://doi.org/10.3846/jbem.2020.11940>
38. Odeh, M. J. (2016). *The impact of using advanced modern management accounting methods in achieving competitive advantage in Jordanian public shareholding industrial companies* [Master's thesis, Al al-Bayt University].
39. Patitsa, C. D., Sotiropoulou, K., Giannakouli, V., Sahinidis, A. G., & Tsaknis, P. A. (2022). The influence of personality on compliance with COVID-19 public health protection measures: The role of prosocial behavior. *Journal of Governance & Regulation*, 11(4), 136-146. <https://doi.org/10.22495/jgrv11i4art13>
40. Ramljak, B., & Rogošić, A. (2012). Strategic management accounting practices in Croatia. *Journal of International Management Studies*, 7(2), 93-100. https://www.academia.edu/24675239/Strategic_Management_Accounting_Practices_in_Croatia
41. Schildkamp, K. (2019). Data-based decision-making for school improvement: Research insights and gaps. *Educational Research*, 61(3), 257-273. <https://doi.org/10.1080/00131881.2019.1625716>
42. Sharaf-Addin, H. H., & Omar, N., & Sulaiman, S. (2016). Integrating target costing indicator within the balanced scorecard model in Malaysian automotive industry: A Rasch analysis. *International Journal of Social Science and Economic Research*, 1(10), 1541-1565. https://ijsser.org/uploads/ijsser_01_95.pdf
43. Shareet, A. (2013). *The impact of the organizational structure on the strategic decision-making process in the organization (case study of the Great Mills Corporation of the South GMC)* [Master's thesis, University of Mohamed Khider].
44. Sousa, M. J., Pesqueira, A. M., Lemos, C., Sousa, M., & Rocha, Á. (2019). Decision-making based on big data analytics for people management in healthcare organizations. *Journal of Medical Systems*, 43(9), 1-10. <https://doi.org/10.1007/s10916-019-1419-x>
45. Taibaoui, A., & Boderbala, S. H. (2019). Use of balanced score card to measure the strategic performance of Laghouat Mills. *Dirassat Journal Economic Issue*, 10(2), 91-107. <https://doi.org/10.34118/djei.v10i2.138>
46. Tariq, Z. S. M., & Adeel, M. (2013). Importance of "balanced scorecard" and its strategic use in modern business management accounting. *International Journal of Management, IT and Engineering*, 3(5), 202-219. <https://www.indianjournals.com/ijor.aspx?target=ijor:ijmie&volume=3&issue=5&article=017>
47. Tomizh, H. M., Saadon, M. S. I., Nordin, A. O. S. B., & Almahasneh, Y. A. S. (2022). The Mediating effect of job satisfaction on the relationship between the delegation of authority and the performance of employees. *Corporate & Business Strategy Review*, 6(4), 100-109. <https://doi.org/10.22495/cgobrv6i4p9>
48. Tzempelikos, N., & Gounaris, S. (2017). A Conceptual and empirical examination of key account management orientation and its implications — The role of trust. In C. L. Campbell (Ed.), *The customer is not always right? Marketing orientations in a dynamic business world* (Developments in marketing science: Proceedings of the Academy of Marketing Science, pp. 673-681). Springer, Cham. https://doi.org/10.1007/978-3-319-50008-9_185

APPENDIX. PLS4 RESULT: BOOTSTRAPPING — HYPOTHESIS TESTING

