MEASURING THE STRATEGIC PERFORMANCE OF HIGHER EDUCATION INSTITUTIONS: A BALANCE SCORECARD APPROACH

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ABSTRACT

This study aims at developing a model for measuring strategic performance of higher education institutions using the balanced scorecard perspective. It also aims at identifying the dimensions and key performance indicators based on the strategic mission and goals of Mutah University. The study adopts a case study methodology using content analysis in order to identify the dimensions and strategic performance indicators appropriate for higher education institutions in general and Mutah University in particular. It also utilizes a questionnaire method to determine the views of administrative and academic leaders at Mutah University regarding the appropriateness of the proposed model dimensions and performance indicators.

Using factor analysis statistical technique, the study identified forty-two financial and nonfinancial performance indicators for measuring the strategic performance at Mutah University, grouped under the following dimensions: governance and management, teaching and learning, launching new programs, scientific research, cultural exchange and delegation, diversity of financial resources, adequacy of internal support services, community development, and reputation. The study proposes a number of recommendations that would enhance the strategic performance measurement at higher education institutions.

Keywords: Strategic Performance Measurement, Balanced Scorecard, Strategic Performance, Indicators, Higher Education Institutions.

INTRODUCTION

Evaluating and measuring institutional performance is one of the topics that gained increased attention by researchers in accounting and administrative literature; being the essence of the continuous administrative control process. Higher education institutions face many pressures as well as internal and external forces calling for reinforcing their competitiveness and enhancing the quality of their processes and outcomes, as well as reinforcing the values of accountability and transparency. Thus, universities need to develop their administrative and control systems to cope with the requirements of the surrounding environment. The success of educational institutions is highly dependent on their ability to measure the performance of their intangible assets, the quality of their processes, as well as on their ability to measure and evaluate the quality of their outcomes. As a result of recent developments and challenges in the external environment, the need arose to evaluate the university' strategic performance through translating its mission, and strategic goals into a set of dimensions and financial and non-financial performance indicators.

Performance evaluation system using the concept of balanced scorecard, developed in 1992 by Kaplan and Norton, is considered among the modern systems for measuring institutional performance in connection with its mission and strategic goals using a set of financial and nonfinancial indicators to measure the critical success factors. The balanced scorecard is a strategic

administrative system that translates the strategic plan of the university into an integrated set of financial and non-financial performance indicators that contributes to the achievement of the institution's strategic goals (Kaplan & Norton 1996).

Recent studies indicated that numerous business organizations are using the balanced scorecard concept to evaluate their strategic performance, however, it is application and appropriateness in evaluating and measuring strategic performance in higher education institution needs further studies (Karathanos & Karathanos 2005).

This study aims at developing a model for measuring the strategic performance of higher education institutions using the balance scorecard perspective, taking Mutah University as a case study. In the light of this aim, the study endeavors to achieve the following objectives:

1. Identifying the balanced scorecard dimensions appropriate for measuring the strategic performance at Mutah University.
2. Identifying the most important strategic performance indicators according to these dimensions.
3. The importance of this study emanates from the importance of its topic as well as from the need of the higher education institutions in Jordan to use modern systems to evaluate their strategic performance.

This study is considered one of the first studies that aims at developing a performance evaluation and measurement system based on the balanced score card perspective which reflect the strategic performance of higher education institutions in Jordan in general and Mutah university in particular.

This study consists of four parts. The first tackled the research motivation, objectives and importance. The second part presents the theoretical framework and the concept of balanced scorecard, its importance for higher education institutions and the proposed frame for measuring strategic performance. Research methodology, data collection method, questionnaire design, distribution, and respondents' characteristics are shown in the third part. Whereas, the fourth part of the study presents data analysis, results and recommendations.

Theoretical Framework

Effective performance evaluation systems at universities is essential to achieve their strategic goals and objectives and ensure the quality of their processes and outcomes in the context of the teaching-learning process thereby responding to the changing needs of the labor market and solving the civil society problems. Therefore, strategic performance should be measured in this context, since performance cannot be evaluated and strategic goals cannot be realized without measurement and evaluation. It can be argued that performance measurement plays an important role in the evaluation process, but its role is restricted to effects and results, whereas evaluation is considered as a more comprehensive process as it looks at the causes and is also concerned with the goals and how these goals can be achieved.

Balanced Scorecard

The balanced scorecard (BSC) is an administrative system that aims at assisting institutions in translating their visions and strategic goals into a set of interconnected strategic dimensions and indicators. The financial dimension is no longer the only dimension through which institutions can evaluate their activities and plan their future movements (Kaplan & Norton, 1992). Among the reasons behind the emergence of the balanced scorecard model is overcoming deficiencies in traditional financial control systems. Traditional methods of evaluation are concerned with

financial results only, but at present, attention is being given to both financial and non-financial aspects in measuring and evaluating business results through the balanced scorecard model (AlZwyalif, 2012).

It is worth mentioning that the BSC mainly consists of the four traditional dimensions, including financial, customers, internal processes and development and learning. These dimensions are considered appropriate for-profit institutions, but do not suit higher education institutions because of the differences in their nature, processes and objectives. Higher education institutions are considered non-profit institutions with intangible products. Thus, the BSC system is suitable for higher education institutions only if their special nature, needs and strategic goals are taken into account. For instance, higher education institutions include many other dimensions besides the financial dimension, such as governance and administration, supporting services, teaching quality, scientific research and the university reputation (Haladchencko, 2015). Furthermore, the balanced scorecard in higher education institutions is based on non-financial performance indicators more than the financial ones.

The Proposed Framework and Model

Mutah university is one of the first Jordanian public universities, established in 1981. It differs from other Jordanian universities by including two wings, a military education wing, in addition to the non-military academic education wing. Based on its mission, Mutah university endeavors to be a competing university through pioneering in the fields of academic and military education, scientific research and sustainable development of the society, through providing a university environment that reinforces innovation, teaching capabilities, scientific research and qualifies graduates capable of competing in the labor market, locally, regionally and internationally.

The main principle on which the balanced scorecard relies is to translate the university mission and strategic goals into a set of financial and non-financial performance measures. Therefore, the main component of the BSC in represented in identifying the main dimensions and indicators according to the strategic goals that the university aims to realize. In the current study, the researchers referred to the strategic plan of Mutah university for the years (2015-2020) and identified seven dimensions that reflect the strategic goals and objectives of the university. Table 1 shows the translation of the university's strategic goals according to the dimensions of the proposed balanced scorecard. it is noted that all of these balanced scorecard dimensions reflect Mutah University strategic goals and are suitable for other higher education institutions' mission and objectives.

Table 1
DIMENSIONS OF STRATEGIC PERFORMANCE AT MUTAH UNIVERSITY

No.	Strategic goal	Proposed dimensions
1	Applying best international practices in the field of planning and governance.	Governance and administration.
2	Continuous improvement of university programs to comply with national and international standards.	Knowledge dissemination.
3	Reinforcing the university's position as a center of scientific research, delegation and innovation.	Knowledge creation
4	Improving internal support services to cope with national and international standards.	internal support services
5	Developing the efficiency of financial resources.	Financial resources.

6	Enhancing the university role in society development and cooperation	Community development.
7	Developing quality assurance procedures and continuous improvement with the target of improving its processes and reputation.	Improvement and reputation.

RESEARCH METHODOLOGY

Based on the nature of the current study and its objectives, the study utilized both qualitative and quantitative research methodologies (triangulation), since this contributes to improving the research quality and arriving at more credible and more objective results. The study employed the case study methodology focusing at Mutah University and a used content analysis of its strategic plan for the years 2015-2020, in addition to the pertinent literature and previous studies.

The study also used questionnaires distributed to all academic and administrative senior staff at Mutah University to determine their views regarding the appropriateness of the proposed BSC model for measuring the university strategic performance. The study population consists of all 93 senior academic and administrative staff at Mutah University, including the university president and vice-presidents; Deans and vice-deans of faculties; Academic department heads and directors of support units and other deanships.

Questionnaire Composition and Response Rate

The first part of the questionnaire included 78 items that represent the dimensions and their indicators as shown in Table 2. All questions were closed type and had to be answered according to a 5-point Likert scale ranging from 5 = very important to 1 = not important at all. In addition, some open type questions were included to give the respondents the freedom to add any suggestions to enhance the proposed model.

Table 2
QUESTIONNAIRE'S BSC COMPOSITION

Dimensions	**indicators**
Governance and administration.	14
Excellence in knowledge dissemination.	14
Excellence in knowledge creation, pioneering and innovation.	13
Excellence in supporting internal services.	9
Financial dimension.	12
Local society development.	7
Quality assurance and continuous improvement.	91
Total	78

Table 3
QUESTIONNAIRE RESPONSE RATE

	Distributed	Returned	Excluded	Useable	Response rate
Presidents and vice-presidents.	3	3	-	3	100%
Dean and vice-deans.	26	23	-	23	88.4%
Academic department heads.	57	36	2	34	59.6%
supporting units deans & directors	7	6	1	5	71.4%
Total	93	68	3	65	69.8%

The second part of the questionnaire included general questions about the respondents to determine their characteristics as well as their capability of answering the questionnaire's questions. Table 3 shows that ninety-three questionnaires were distributed and sixty-five useable questionnaires returned with an overall response rate of 69%.

Characteristics of Participants

It is worth mentioning that the orientation of the respondents as well as their response quality to the questions stated in the study questionnaire are affected by the respondent's educational level and practical experience. Table 4 shows the respondents' characteristics. These characteristics indicate that the majority of respondents have sufficient knowledge and experience to answer questionnaire questions reliably.

Table 4
CHARACTERISTICS OF RESPONDENTS ACCORDING TO DEMOGRAPHIC VARIABLES

Variable	Level	Frequency	Percentage
Scientific degree.	**PhD.**	**65**	**100%**
Occupational position.	Presidents and vice-presidents.	3	5%
	Dean and vice-deans.	23	35%
	Department heads.	34	52%
	Directors of supporting units & deans	5	8%
	Total	**65**	**100%**
Years of experience at the university	1-9	28	43%
	10-19	25	38.4%
	20-30	12	18.4%
	Total	**65**	**100%**

Data Analysis, Results and Recommendations

Multivariate factor analysis is one of the statistical methods used in social sciences to deal with large data, where data reduction is utilized to facilitate data processing. This means summarizing multiple data correlated together with different degrees of correlation to be represented in the form of a list of classified data according to common characteristics based on the theoretical framework practical logic. Thus, the use of factor analysis is directed to the examination of correlational relationships among a number of variables (performance indicators in this study) and the extraction of the classification (dimension) bases among them (Kadum, 2014). It is worth mentioning that factor analysis gives the first classification or factor extracted from the analysis maximal importance, while the second factor less importance and so on. This means that the first factor is the most important one and explains most variance of the dimensions to be measured. Whereas, the last factor is the least important and explains the least variance.

Factor loadings for each dimension to be measured help in arranging the variables or indicators according to their importance based on factor loading values. A factor loading value is the simple correlation between the variable and the dimension (Kadum, 2014; Miles & Banyard, 2007). Therefore, factor analysis was used to answer the study questions, because of its capability of identifying the most important indicators for measuring the strategic performance and classifying them according to the dimensions of the BSC.

Factor analysis was conducted using the principal component method based on the following critera (Hair et al., 2018):

1. KMO value should be higher than 0.50 and the Bartlett test value should be of statistical significance, to verify the appropriateness of conducting the factor analysis test and its results in this study.
2. The eigenvalue of each factor or component should be greater than 1.00;
3. Retaining the most important factors for which the explained variance is not less than 10% and/or explaining 60% of the total variance or more.
4. Factor loadings between variables and dimension should be more than 50.
5. The value of Cronbach's alpha for each factor should be 0.60 or higher.

It is worth mentioning that items or indicators measuring a BSC dimension should not be plenty, rather, a few indicators, not more than a hand's fingers (Kaplan and Norton, 1996). Using plenty of indicators leads in most cases to the problem of information overload, which results in the dispersion of the administration's concentration and the inability to measure and realize the strategic objectives.

Governance and Planning

Factor analysis results shown in Table 5 indicate the appropriateness of data and number of observations for conducting factor analysis (KMO value higher than 0.50 and the statistical significance of Bartlett test is less than 0.05). The questionnaire contains 14 items to measure this dimension, and were reduced and grouped under three factors (dimensions) explaining 75% of the variance in this dimension. These factors were labeled: governance, transparency and planning. Loadings were high, ranging from (0.52) and (0.89), which indicates the importance of all items to measure these factors. Cronbach's alpha values for these factors were high (0.917, 0.911 and 0.697 respectively), and within the good levels of consistency. The first factor (governance) was the most important and explains nearly 60% of variance in this dimension, whereas the variance explained for second and third factors were less than 10% (8.8% and 7.7%) respectively. Thus, based on the aforementioned criteria (No 3) for conducting factor analysis, the study retains only the first factor (Governance).

Table 5
FACTOR ANALYSIS FOR GOVERNANCE AND ADMINISTRATION DIMENSION

Performance indicators	Governance	Transparency	Planning
1. The mission and vision of the university are clear to all parties.			0.895
2. Strategic and operation plans have a specified implementation time schedule.			0.602
3. Strategic and administrative decisions are transparent and participative.		0.724	
4. The university structure is appropriate for achieving its strategic goals.		0.528	
5. There is an efficient information system in the university.		0.661	
6. Decisions are based on principles of justice, opportunity equivalence and work ethics		0.766	
7. Values of impartiality, sharing transparency, and accountability are reinforced.		0.860	
8. Duties assigned to deanships and administrative units are specified and clear.		0.607	
9. Selection and appointment criteria for faculty and staff is objective and clear.	0.781		
10. Conducting performance evaluation of deanships and administrative units annually.	0.843		

11. Supporting continuous education and development of faculty and staff.	0.667		
12. Quality and continuous improvement in the academic and administrative work.	0.613		
13. Administrative decisions are consistent with expected regulations and rules.	0.704		
14. Financial resources are diversified and managed efficiently according to priorities.	0.787		
Variance explained	59.154%	8.812%`	7.743%`
Cronbach's alpha	0.917	0.911	0.697
Bartlett's test of sphericity	680.088 (sig. 0.000)		
KMO	0.903		

The most important indicators loaded on the first factor (governance), were items 10, 14, 9, 13, and 11, respectively. These indicators include conducting annual performance evaluation of deanships and administrative units, diversifying and managing financial resources efficiently, selection and appointment of faculty and staff is objective, administrative decisions are consistent with expected regulations and rules, and the university supports staff continuous education and development.

Knowledge Dissemination

Factor analysis results shown in Table 6 indicate that the 14 items included in the questionnaire to measure this dimension, were reduced and grouped under three factors explaining 72% of the variance in this dimension. These factors were labeled learning and teaching quality, launching new programs and graduation and retention. Loadings were high, ranging between (0.57) and (0.85), which indicates the importance of all items for measuring these factors. Cronbach's alpha values were high and within the good levels of reliability (0.769, 0886 and 0.768, respectively). The first factor (learning and teaching quality) explains the most variance in this dimension with a percentage of about (53%), followed by the second factor (launching new programs) with a percentage of (10.279%). whereas the third factor (graduation and retention) came last explaining less than 10%, thus, was not retained.

Table 6
FACTOR ANALYSIS RESULTS FOR KNOWLEDGE DISSEMINATION DIMENSION

Performance indicators	**Learning & teaching**	**New programs**	**Graduation & retention**
1. Number of new academic programs annually.		0.842	
2. Number of academic programs launched in cooperation with external institutions.		0.797	
3. Number of academic programs in which the university stands alone locally.		0.773	
4. Number of students registerd annually according to programs and faculties.		0.633	
5. Number of non-Jordanian students according to programs and faculties.		0.687	
6. Annual number of graduates according to programs and faculties.			0.680
7. Percentage of graduates within the specified program period	0.572		
8. Percentage of graduates with GPA "excellent, "very good" or "good" to total graduates.	0.639		

9. Percentage of non-registered or withdrawn students to the total number of students.			0.850
10. Success rates of students in programs participating in national competency exam.	0.686		
11. Percentage of faculty members with PhD degree from prominent accredited universities.	0.734		
12. Ratio of faculty members to students (according to programs and faculties).	0.837		
13. Number of academic programs accredited nationally and internationally	0.826		
14. Satisfaction levels of faculty members, students, and employers with the programs' quality.	0.767		
Variance explained	52.947%	10.279%	8.574%
Cronbach's alpha	0.769%	0.886%	0.768%
Bartlett's test of sphericity	632.374 (sig. 0.000)		
KMO	0.850		

The most important indicators loaded on the first factor (learning and teaching) relates to items 12, 13, 14, 11, and 10 respectively. These indicators include ratio of faculty members to students, the number of accredited academic programs, the satisfaction level of faculty, students, and employers with the programs, percentage of faculty members with PhD degree from prominent accredited universities, and success rates of students in national competency exam.

Whereas, the indicators loaded on the second factor (new programs) according to their importance were items 1,2,3,5 and 4 respectively. These indicators include number of programs launched annually, number of academic programs in cooperation with external institutes, number of academic programs in which the university stands alone compared to other universities, and number of students registered annually.

Knowledge Creation and Innovation

Factor analysis results shown in Table 7 reveals that the nine items used in the questionnaire to measure this dimension, were reduced and grouped under two factors explaining 73% of the variance in this dimension. These factors were labeled scientific research and cultural exchange and delegation. Loadings were high, ranging from (0.51) to (0.88), indicating the importance of all items to measure these factors. Cronbach's alpha values were high and within the good level of consistency (0.869 and 0.898, respectively). Table 7 also shows that the first factor (scientific research) was the most important explaining (61%) of variance, whereas, the second factor (cultural exchange and delegation) explains (12.524%) of variance. Thus, both factors were retained.

The indicators loaded on the first factor (scientific research), according to their importance, were items 1, 4, 3 and 2, respectively. These indicators include numbers of papers published by faculty members in accredited journals, amount of annual budget for scientific research, number of funded research projects, number of studies and consultations to local community.

Whereas, the indicators loaded on the second factor (cultural exchange and delegation), according to their importance, were items 8, 9, 7, 6 and 5, respectively. These indicators are number of beneficiaries from cultural exchange programs with international universities, number of faculty members sponsored to obtain PhD degree, number of refereed books supported annually

by the university, percentage of published papers from master and doctorate thesis, and number of agreements signed with international institutions in the field of scientific research.

Table 7
FACTOR ANALYSIS RESULTS FOR KNOWLEDGE CREATION AND INNOVATION

Performance indicators	Scientific research	Cultural exchange
1. Numbers of papers published by faculty members annually in accredited journals.	0.863	
2. Number of empirical studies and consultations to local community.	0.755	
3. Number of research projects funded by the university or by external entities.	0.758	
4. Amount of annual budget for scientific research and publications.	0.822	
5. Number of agreements with external institutions in the field of scientific research.		0.513
6. Percentage of published papers from MSc and PhD dissertations.		0.639
7. Number of refereed books supported annually by the university.		0.798
8. Number of beneficiaries from cultural exchange programs with international universities.		0.883
9. Number of faculty members delegated to obtain PhD degree.		0.851
Variance explained	61.001%	12.524%
Cronbach's alpha	0.869	0.898
Bartlett's test of sphericity	448.069 sig. 0.000	
KMO	0.859	

Internal Support Services

Factor analysis results shown in Table 8 reveals that the nine items used in the questionnaire to measure this dimension, were grouped under two factors explaining 70% of the variance in the dimension. These factors were labeled support services adequacy and level of satisfaction. Loadings on these factors were high, ranging from (0.58) and (0.89), which indicates the importance of all items for measuring these factors. Cronbach's alpha values for the two factors were high and within the good levels of consistency (0.876 and 0.870 respectively), The first factor (service adequacy) was the most important explaining (59%) of variance while the second factor (satisfaction level) explains (10.806%). Thus, both factors were retained.

Table 8
FACTOR ANALYSIS RESULTS OF INTERNAL SUPPORT SERVICES

Performance indicators	Service adequacy	Satisfaction
1. Number of modern books and references added annually to the library.	0.738	
2. Number of students benefiting from library services (borrowing rate).	0.805	
3. Number of data bases in which the university subscribes.	0.599	
4. Number of training programs and extracurricular activities presented to the students.	0.841	
5. Number of students benefiting from the training programs and extracurricular activities.	0.781	
6. Percentage of administrative staff and technician to students.	0.582	
7. Satisfaction level of students and faculty with the registration and financial services.		0.897
8. Satisfaction levels of students and faculty members with library services and learning and teaching resources.		0.765
9. Satisfaction levels of students and faculty members with the IT services (questionnaire).		0.811
Variance explained	59.369%	10.806%
Cronbach's alpha	0.876	0.870
Bartlett's test of sphericity	371.110 (sig, 0.000)	

KMO	0.858

The Indicators loaded on the first factor according to their importance, were items: 4, 2, 5, 1 and 3, respectively. These items were number of training programs and extracurricular activities presented to the students, number of students benefiting from library services (borrowing rate), number of students benefiting from the training programs and extracurricular activities, number of new books and references added annually, and number of databases in which the university subscribes. On the other hand, indicators loaded on the second factor (level of satisfaction) according to their importance were items 7, 9, and 8, respectively. These indicators include satisfaction with the administrative and financial services, satisfaction with IT services, and satisfaction level with library services and learning and teaching resources.

Financial Performance

Factor analysis results shown in Table 9 reveals that the twelve items used in the questionnaire to measure this dimension, were grouped under two factors explaining (69%) of the variance of this dimension. The first factor labeled (diversity of financial resources) and the second labeled (expenditure realization). Loadings on these factors were high, ranging from (0.51) and (0.88). Cronbach's alpha values for the two factors were high and within acceptable levels of consistency (0.925 and 0.927 respectively). The first factor (diversity of income resources) was the most important explaining (69%) of variance in this dimension, while the second factor (expenditure realization) explaining only (6.560%). Thus, retaining only the first factor.

Table 9
FACTOR ANALYSIS FOR THE FINANCIAL PERFORMANCE DIMENSION

Performance indicators	Diversity of revenues	Expenditure structure
1. Percentage of revenues from different sources (e.g., fees, grants)	0.862	
2. Percentage of revenues from different programs (BSc; master)	0.884	
3. Percentage of revenues from the parallel programs	0.791	
4. Percentage of revenues from parallel programs to the number of students in the parallel programs.	0.733	
5. Percentage of revenues from non-Jordanian students	0.640	
6. Percentage of the operating expenditures to total expenditures.		0.738
7. Percentage of capital expenses of the total expenses.		0.840
8. Amount of financial grants to students annually.		0.743
9. Percentage of salaries of administrative employees		0.518
10. Percentage of total expenses of total revenues.		0.593
11. Percentage of capital expenses of total revenues.		0.533
12. Percentage of general debt to total assets.		0.613
Variance explained	69.030%	6.560%
Cronbach's alpha	0.925	0.927
Bartlett's test of sphericity	774.383 (sig. 0.000)	
KMO	0.897	

The Indicators loaded on the first factor according to their importance, were items: 2, 1, 3 and 4, respectively. These items were the percentage of fees from different programs, the percentage of revenues from different resources (fees, grants and aids,), the percentage of fees

obtained from the parallel programs, and the percentage of fees obtained from the parallel programs to the number of students in the parallel programs.

Community Development

Factor analysis results shown in Table 10 reveals that the six items used in the questionnaire to measure this dimension, were grouped under one factor explaining (57.692%) of the variance in this dimension. Loadings were found to be high, ranging from (0.60) to (0.88), which indicates the importance of all items for measuring this factor. Cronbach's alpha value for this factor was within the acceptable levels of consistency (0.876). Indicators loaded on this factor according to their importance, were items 4, 5, 2, 3 and 1, respectively. These items are the amount of financial aid and grants awarded to develop local community annually, number of joint agreements with local community and institutions, the number of beneficiaries from development programs, number of studies and seminars directed to developing and solving problems of the local society, and the percentage of students accepted from local community.

Table 10
FACTOR ANALYSIS FOR COMMUNITY DEVELOPMENT

Performance indicators	Community Development
1. Percentage of students with special categories (students from local community; elderly; women; special needs) to the total number of students accepted annually.	0.797
2. Number of beneficiaries from the local community, other than the students, from the training and development programs.	0.826
3. Number of studies and symposiums directed to local community development and solving its problems	0.799
4. Amount of financial aid and grants awarded annually.	0.883
5. Number of joint agreements with local communities and institutions, to provide specialized consultations and training services.	0.859
6. The percentage of employees from local community (faculty and administration employees) to the total number of the employees.	0.606
Variance explained	57.692%
Cronbach's alpha	0.876
Bartlett's test of sphericity	250.059 (sig 0.000)
KMO	0.792

Continuous Improvement and Reputation

Factor analysis results shown in Table 11 reveals that the nine items used in the questionnaire to measure this dimension, were grouped under two factors explaining 80% of the variance in this dimension. The first factor was labeled university reputation, whereas the second factor was labeled development and growth. Loading were found to be high, ranging from (0.66) to (0.87), which indicates the importance of all items for measuring these factors. Cronbach's alpha value for these factors were 0.945 and 0.897, respectively. The first factor was the most important explaining 74% of total variance whereas the second factor explains only (6.118%). Thus, only the first factor was retained. Indicators loaded on this factor, according to their importance, were items 6, 7, 5, 9 and 8, respectively. These indicators are percentage of non-Jordanian faculty members to the total number of non-Jordanian students, percentage of non-Jordanian students,

percentage of faculty to the students, number of academic programs with accreditation from national and international accreditation bodies, and rank of the university under national, regional and international rankings.

Table 11
FACTOR ANALYSIS RESULTS FOR CONTINUOUS IMPROVEMENT AND REPUTATION

Performance indicators	University reputation	Development & Growth
. Number of training courses for fresh faculty members during the year.		0.782
. Number of faculty members participating in specialized courses and workshops inside and outside the university.		0.876
. Number of training workshops inside and outside the university to develop administrative employees' performance.		0.724
4. Number of faculty participating in international conferences.		0.661
5. Percentage of faculty to students.	0.757	
. Percentage of foreign faculty members of the total number of foreign students.	0.838	
7. Percentage of foreign students to the total number of students.	0.836	
. Rank of the university with national, regional and international ranking bodies.	0.725	
. Number of academic programs accredited nationally and internationally.	0.734	
Variance explained	74.337%	6.118%
Cronbach's alpha	0.945	0.897
Bartlett's test of sphericity	605.829 (sig. 0.000)	
KMO	0.853	

RESULTS AND RECOMMENDATIONS

This study generally aims at developing a model for measuring the strategic performance of higher education institutions using the balanced scorecard perspective and taking Mutah University as a case study. The main objectives of the study are to identify the appropriate dimensions of BSC to measure the strategic performance of Mutah University, and to determine the most important indicators of strategic performance. The extent of appropriateness of the proposed dimensions and critical performance indicators reflecting the mission and goals of the university was determined, using questionnaires distributed to the academic and administrative leaders at the university. Using factors analysis statistical technique, the study identified forty-two financial and non-financial performance indicators, categorized under ten dimensions relevant for measuring the strategic performance of higher education institutions in general and Mutah University in particular. Table 12 shows these dimensions and the most important performance indicators.

Table 12
SUMMARY OF THE PROPOSED MODEL STRATEGIC PERFORMANCE DIMENSIONS AND INDICATORS

Dimensions	**Performance indicators**
Governance	The performance of deanships and administrative units is annually evaluated.
	Selection and appointment of faculty and staff are based on clear and objective criteria.
	Administrative decisions and procedures are consistent with regulations and instructions.
	Improving and diversifying financial resources.
	Supporting continuous education inside and outside university's society.
	Percentage of faculty members to students according to faculties and programs.
	Number of academic programs accredited from specialized external entities.

Learning & teaching quality	Satisfaction level of faculty members, students and the society with the programs offered.
	Percentage of faculty with PhD degrees from western universities from the total number of faculty members.
Launching new programs	Number of academic programs launched annually.
	Number of academic programs launched in cooperation with other universities.
	Number of academic programs in which the university stands alone compared to other universities.
	Number of accepted non-Jordanian students according to the programs.
Scientific research	Size of annual financial budget to support scientific research.
	Number of research projects funded by external entities.
	Number of published research papers by faculty members annually.
	Number of applied studies and consultations presented to civil society institutions.
Cultural exchange and delegation	Number of beneficiaries from cultural exchange programs in international universities.
	Number of faculty members delegated to obtain PhD degree.
	Number of books published and supported by the university annually.
	Percentage of published research papers from master and PhD dissertations
Internal support services	Number of training programs and extra-curricular activities presented to students.
	Number of students benefiting from library services (borrowing rate).
	Number of students benefiting from train programs and extra-curricular activities.
	Number of modern books and references annually.
Satisfaction level	Satisfaction levels of students with the administrative and financial services presented to them.
	Satisfaction levels of students and faculty members with the technological services presented to them.
	Satisfaction levels of students and faculty members with library services and education resources.
Diversity of revenues	Percentage of income obtained from different sources (fees, grants …) of the total income.
	Percentage of fees obtained from different programs (BSc; higher studies) of the total income from study fees.
	Percentage of income obtained from parallel programs of the total study fees.
	Ratio of fees obtained from parallel programs (BSc; higher studies) to the number of students in the parallel programs.
	Percentage of income obtained from foreign students (international program) of the total income.
Community development	Size of aids and financial grants presented to students annually.
	Number of agreements concluded with civil society institutions to present consultation services.
	Number of beneficiaries from the local society (other than students) from the training and other consultation service.
	Number of consultation studies and symposiums directed to solve local society problems.
	Percentage of accepted students from special categories (elderly; students with special needs; …) of the total number of students accepted.
University reputation	Percentage of non-jordanian faculty members of the total number of non-Jordanian students.
	Percentage of non-Jordanian students to the total number of students.
	Percentage of faculty to students.
	Results of the university's national, regional and international classifications.

The study recommends that higher education institutions should evaluate their strategic performance annually and develop their performance evaluation systems using the balance scorecard perspective in order to ensure the achievement of their mission and strategic goals, since "what gets measured gets done". The study also recommends Mutah University, in particular, to adopt/adapt the proposed model to evaluate its strategic performance. Finally, the study recommends future research to conduct further research on subjects that serve higher education institutions to achieve more development and excellence.

REFERENCES

Al-Zwyalif, I.M. (2012). The possibility of implementing balanced scorecard in Jordanian private universities. *International Business Research, 5*(11).

Hair, J., Babin, B., & Anderson, W. (2018). *Multivariate Data Analysis, 8th ed*. Cengage Publications.

Haladchenko, M. (2015). Balanced Scorecard – a strategic management system of the higher education institution. *International Journal of Educational Management, 29* (2).

Jiang, D., & Zuankuo, L. (2014). Research on application of balanced scorecard in the government performance appraisal. *Open journal of social sciences, 2*(9).

Kadum, A. (2014). The role of factor analysis in the concept of health services quality provided for the patient. *Al-Qadisiyah journal for administrative and economic studies*. *16* (4).

Kaplan, R.S., & Norton, D.P. (1992). The balanced scorecard-measures that drive performance. *Harvard business review, 70* (1).

Kaplan, R.S., & Norton, D.P. (1996). *Translating strategy introduction, the balanced scorecard.* Harvard Business School Press: Boston.

Karathanos, D., & Karathanos, P (2005). Applying the BCS to education. *Journal of Education for Business, 80*(4).

Miles, J., & Banyard, P. (2007). *Understanding and using statistics in psychology*. A practical introduction. Sage Publications Ltd.