

The Use of Sustainable Balanced Scorecard as a Tool for Strategic Planning and Resource Efficiency Improvement: An Empirical Study in the Mustansiriya University

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Abstract

The purpose of this study was to establish a sustainable balanced scorecard for the selected population with the inclusion of resources, objectives, indicators, measures, issues, and dimensions of the sustainability of Iraqi universities using the philosophy of strategic planning following a scientific and modern manner. Through the diagnosis of strengths and weaknesses following the use of the proposed treatment, the card was designed to improve the efficiency of the resources at the Faculty of Management and Economics in Mustansiriya University. The study concluded that what was needed to ensure the assessment of the performance and the integration of the dimensions of sustainability was no longer in accordance with the modern methods and techniques. Also, the most important part of the planning process of the Faculty of Management and Economics was to identify the strengths and weaknesses of their positions, compare the actual reality of the quality standards of higher education organizations, and improve the efficiency of their resources.

Keywords: Sustainable balanced scorecard; Strategic planning; Resource efficiency improvement.



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1. Introduction

In accordance with the modern systems integrating the financial and non- financial standards in order to give a more integrated view and clearer picture of the university performance of Iraq, they stand as vital organizations in building the society. The problem of this study emerged from the representation whether the mission, vision, or goals of the faculty administration were inspired by reality or the mission, vision or the goals could be measured and achieved. The stage of planning was known to be a scientific method in the efficient investment and recruitment of the resources. This stage intended to achieve a benefit present in the service of the internal administrative structures in conjunction with the external interest in comparison with the areas of sustainability. Using the strategic planning philosophy, this study aimed to answer the questions on design and application of sustainable balanced scorecard by incorporating the dimensions and resources of sustainability. The issues surrounding sustainability are also addressed in order to improve the efficiency and performance of the Faculty of Management Resources and Economics at Mustansiriya University. The strengths and the weaknesses of the management were also diagnosed in order to address the weaknesses by accrediting the quantitative indicator standards and academic quality for the preparation of approved strategic plan on the outcome of the study (Pussymanov *et al.*, 2018).

One of the contributions of this study was the important role played by the Iraqi universities in the graduation of specialized professional personnel that had the capacity to meet the needs of the community and deal with the changes in experience and competencies. The university was also working towards activating all that had led to educational processes at a time at a period when the universities were in competition to upgrade their ranks within the global quality classification (Ilinichna *et al.*, 2017). The approach of sustainable strategy to planning allowed the integration of sustainability dimensions, issues and resources with the design of a sustainable balanced scorecard and their respective applications to the faculty of Management and Economics at Mustansiriya University. The weaknesses and the strengths of the faculty were addressed through academic quality and standard accreditation using a philosophy to prepare a strategic plan and then present the relationship to the people and different sections of the faculty through the design of the strategic map (Antúnez, 2018). Using the philosophy of strategic planning, the implementation and the design of a balanced scorecard (BSC) proved sustainable through the integration of dimensions and resources of sustainability. This, in turn, improved the efficiency of the resources of the Faculty of Management and Economics. The Faculty of Management and Economics at Mustansiriya University in Iraq was the selected population of this study. The study explored the data from the Faculty of Management and Economics at Mustansiriya University for two academic years within 2014 to 2015.

2. Literature Review

Ahmed (2011) examined the possibility of implementing BSC to government sectors and the performance measurement in order to create a feasibility of planning and monitoring in governmental organizations. The study

also aimed to determine the association between the scorecard and the process of improving the performance of the resources of the government sectors. Through formulating the perspectives of the sustainable card and identifying the benchmarking technique, BSC and its application were also studied to demonstrate their contribution to the strategy of the organization and how it could contribute to the performance and improvement of the institution.

In furtherance, the study aimed at exploring the management in advanced literatures and application models in the BSC of the higher education sector. The SWOT Matrix, the BSC Development, and the ITIL Strategic Plan were also used for the analysis of the business environment of the Institute of International Transport and Services. In another vein, [Ahmed \(2011\)](#) provided a wide overview of resource consumption management and how it could be implemented by educational institutions through theoretical framework development, applied to any institution.

This study contributed to the ocean of knowledge by evaluating how BSC could be applied as a strategic planning tool in implementing and designing a sustainable card with measures and indicators. Also, to achieve the objectives that included the dimensions and resources of sustainability in comparison with the criteria; that is how to incorporate and employ accreditation criteria into the scorecard in order to diagnose strengths and weaknesses. The accreditation was also carried out by a non-profit governmental organization in the economic and administrative department of the Mustansiriyah University.

2.1. The Concept of Sustainable BSC

In 1950s, a group of GE employees started the BSC in order to develop performance measures. The team recommended that the division should be measured on the scale of one to seven in non-financial measures as follows; the measures of profitability were productivity, ethical and legal behavior, overall responsibility, product leadership, residual income, and market share which were used to measure profitability while stakeholders' responsibility was measured by individual development, shareholders, community, individual employee orientations, distributors, balancing long-term goals with short-term ones, and suppliers. The illustrations of the respective contributions to the BSC were employed from the works of Simon, Drucker, and Anthony ([Kaplan 2009](#)).

However, the evaluation of the cause-and-effect relationship between a set of actions and the desired results was determined by the strategic planning which was in consonance with the strategic concept of the BSC. In this respect, Anthony stated that the administrative control could heavily depend on the financial structure of the economic unity with few exceptions. In contrast, the quantitative measures such as the productivity measures and market share were assumed useful for the organization. The operational control which was the third type of systems was comprised of the non-financial information by taking the results of the non-financial and operational performance measures into account. This was achieved with realistic indicators of the causes of financial and structural performance and these measures were the wider entrances to what was owned by the leading indicators of managing strategic objectives connected to strategic initiatives in moving towards sustainable performance.

Anthony explained further that the evaluation of the cause-and-effect relationship between a set of actions and the desired results could be determined by the strategic planning which was in accordance with the strategic concept of the BSC. Regarding the managerial control, Anthony revealed that the control heavily depended on the financial structure of the economy with few exceptions. In contrast, the quantitative measures such as the productivity measures and market share were considered useful for the organization. The third type of systems i.e. the operational control dealt with both financial and non-financial information by taking the results of the non-financial and operational performance measures into account. This was achieved with realistic indicators of the causes of financial and structural performance and these measures are the wider entrances to what was owned by the leading indicators of managing strategic objectives connected to strategic initiatives in moving towards sustainable performance.

2.2. Sustainable BSC

The meaning of sustainability should be addressed before going into the concept of sustainable BSC (SBSC). The word "sustainability" refers to the study and the implementation of knowledge on how individuals, society and organizations are controlled in a manner that improve and restore the technological, financial, human, and intellectual property in order to generate stakeholder value and contribute to the well-being of present and future generations ([Sidiropoulos et al., 2004](#)). Additionally, through the development of markets to promote and support economic prosperity and social and environmental justice, the sustainable growth seeks to gain more people in the world as customers ([Blocher et al., 2010](#)).

With the connection of dimensions of sustainability, enhancement or improvement of the BASK model and the sustainable BSC model, organizations can be clearly sustained ([Moller and Schaltegger, 2002](#)). In this regard, [Epstein and Roy \(2001\)](#) added that BSC was the application of strategy into implementation but due to external effect from sustainability issues such as environmental, social and economic, it was hard to be applied. Therefore, organizations must identify economic, social, and environmental performance indicators.

The proposal of the BSC sustainability was concluded by the Nike and Ford Motor through adding new perspectives and metrics within the four traditional core perspectives. By adding a fifth new dimension (known as environmental and sociological perspective) to the traditional BSC under the heading "Strategies for sustainable management", [Bieker \(2002\)](#), [Blocher et al. \(2010\)](#) proposed the SBSC model.

Recently, the three-tier "triple-bottom line" model comprised of economic, environmental, and social sustainability has just emerged. The model improves the benefit and the understanding of the organization on sustainability on all its challenges which is considered as a critical issue to the management of the organization.

2.3. Identification of the SBSC

The SBSC was derived from the concept of Balanced Scorecard as concept of sustainable strategic management. The model of SBSC can be traditionally traced to [Ahmed \(2011\)](#) as a system, tool, and model for effective use of resources present in an organization. For identification and communication, this set of system was the most advanced management technique applicable to a clear strategic resource-oriented approach like coordinating the efforts of the employees towards implementation. It could also be referred to as the performance measurement system which measures the performance of an organization at any point of time ([Bagdoniene et al., 2011](#)).

2.4. Strategic Planning

According to [Ahmed \(2011\)](#), strategic planning is one of the modern management tools allowing effective and efficient implementation of strategy by an organization. In other words, it is a management tool to incorporate practices to the mission and vision of the organization for the development of continuous commitment ([Crosson and Needles, 2011](#); [Kinney and Raiborn, 2011](#)) further added that the overall strategy and explicit objectives and performance measures of the staff can be determined by considering the basis of staff participation and contribution.

[Ahmed \(2011\)](#) also mentioned that the contribution of the strategic map of the BSC was to create teamwork for the purpose of investment in the entire segments of the organization. The role was further extended to the special relational functions and the public to ensure the implementation of existing strategies.

2.5. SBSC and Higher Education Organizations

Different policies are adopted by higher education organizations in many countries in order to support and promote university and college education and to ensure quality of education and communication between universities and students. Similarly, the policies are set to ensure interaction between universities and society by using the card as a tool to improve and manage the resources of the university ([Nayeri et al., 2008](#)). So, a planning team is needed as strategic planning is part of strategic management and organization and a complex process necessary to plan its two types such as strategic and operational. Strategic planning also depends on financial and non-financial information; thus, it relies on SBSC.

In the ranking of the axes, the difference between the profit-making and non-profit organizations is in the domain of the credit which shall be in accordance with the conditions of the non-profit governmental organizations but not in the primary objective of achieving the financial objective ([Farid et al., 2008](#)).

3. Methodology

The Faculty of Management and Economics established in 1963 at Mustansiriya University was selected as the study sample. This department provided exclusive services to evening studies on business administration, economics, and accounting. A decision was made in 1968 during the official launching and establishment of the Faculty of Management and Economics in order to transfer the evening studies to the morning ones by merging the Business Administration Department of the Iraqi Economists Association into two departments namely Economics, Accounting and Business Administration as the main programs of the faculty. A diploma study was also introduced in agricultural cooperatives in the 1970-71 session of the school calendar in addition to Diploma in Tourism and Hotel Management in the Accounting and Business Administration Department. The Bachelor's Degree course in Agricultural Cooperatives was further introduced by the Statistics Department in the following year (1975) of academic year 1971-1972; therefore, the Diploma in Agricultural Cooperatives was abolished. Moreover, there was an introduction of the study of diplomas in the fields of marketing, warehouse management and accounting in the academic year 1975-1976.

Accounting was introduced in the academic year 1981-1982 while the Department of Tourism and Hotel Management was established in the academic year 1985-1986. The specialization of accounting for business administration was also separated in the academic year 1987-1988; then, each one became a separate department. The Department of Finance and Banking was introduced in the academic year 2011-2012; while the Tourism Department was separated into the Faculty of Tourism and Hotel Management in the academic year 2013-2014. The introduction of the graduate studies for the departments of Accounting, Business Administration, Statistics, Economics and Tourism is among the important steps that have been accomplished for the faculty for the granting of a Master's Degree and Doctorate course. These great steps towards development were intended to raise the efficiency of performance of the institution and achieve the comprehensive development in all fields of both public and private works. At the long run, the faculty could adapt to the requirements of new life and keep updated via the latest scientific and technological developments in the contemporary world. In general, the college set vision, mission and objectives for the Faculty of Management and Economics at Mustansiriya University in order to achieve its goals. The departments in particular derived their vision and mission from the mother university, Mustansiriya University.

4. Results and Analysis

4.1. Disclosure of Available Resources

In order to achieve the strategic objectives, this study explored the resources of the Faculty of Management and Economics. With the assistance of 5Ms, the resources available from the university were used within the domain of SBSC. The 5Ms referred to the five basic resources of any organization as shown in [Table 1](#).

Table-1. Recruiting the Resources of the College Within the Scope of the SBSC

Resource Type	Components of the Resource	Competent Perspective
First: Human energy	Students Parents, Employees Faculty members, Graduates College	Stakeholders + Operations Stakeholders Stakeholders + Operations + Learning & Growth Perspective of learning and growth
Second: Materials	Courses, Awards, Research, Documents, and Records Magazines, Minutes of meetings Curriculum, Mission and Vision, Institution law and regulations, Corporate plans	Perspective of operations Process perspective + Learning and growth Perspective of learning and growth
Third: Methods		Stakeholders + Learning & Growth + Processes Stakeholders + Operations Perspective of learning and growth Stakeholders
Forth: Machine	Computers, Generators, Equipment (Dean Office - Leaders - Faculty Members - Students)	Perspective of learning and growth + Processes
Fifth: Money	Voluntary contributions, Operating income, Financial management, and Operating expenses	Financial Perspective

4.2. Disclosure of Sustainable Strategy

It implies the process of identifying sustainable issues which are linked with environmental (internal and external), economic and social growth; it is also capable of making a strategic future for the college and has a direct effect on the efficiency and effectiveness of the college in [Table 2](#) below:

Table-2. Sustainable Aspects Within the SBSC

Sustainable Aspects	Competent Perspective
Attract high-quality students to programs (bachelor’s, master’s, master’s, doctorate) Development of students of high quality, student satisfaction and retention, community development, academic excellence, improvement of college image, efficiency and effectiveness of graduates	Owners of interests
Scientific excellence and academic excellence, excellence in the educational process of providing innovations in modern curricula and teaching methods, improving the physical learning environment and advanced technological capabilities, high quality and excellence in scientific research. Excellence and innovation in teaching and technology use.	Internal processes
Adequacy of physical facilities, efficiency of machines, equipment and laboratories	Learning and growth
Building fund for donations, increasing funding, imports annual tenders, increasing research grants, increasing allocations state financial allocations, increasing student fees, reducing funds and financial costs, covering all educational costs, efficient use of resources, financial success.	Financial

In accordance with the disclosure of sustainability aspects and disclosure of college resources, these aspects created a bright strategic future for the college will be included within the SBSC in conjunction with the suggestion made from the research background and the formulation of SBSC. The previous studies from researchers inspired the survey conducted using the approach from the international universities on the scorecard in accordance with the resources and sustainable aspects of the institution selected.

4.3. Formulation of the Sustainable Balanced Scorecard

The following are the SBSC formulation process stages:

- i. Translation of the mission and vision of the organization into strategic objectives;
- ii. Measuring the extent to which the objective is achieved using indicators and benchmarks;
- iii. Inclusion of sustainable aspects and resources on the scorecard; and
- iv. Setting up criteria to determine and compare the actual situation of the identification of strengths and weaknesses in order to determine the efficiency of the investment of the resources of the college and improve the status.

To achieve the objectives of the operations of the college, each perspective was translated into a set of resources. Through indicators and benchmarks, these objectives could be measured efficiently by either comparing the objectives with academic accreditation criteria or comparing the years using the data acquired from population of

the study to show the ability of the scorecard. The scorecard is therefore meant to identify strengths, weaknesses, opportunities and threats; thus, the first hypothesis states that:

“The design of a SBSC ensures that available resources are integrated into the dimensions of sustainability”.

4.4. The Design of BSC and Analysis Results

Table 7 - SBSC for the Faculty of Management and Economics at Mustansiriyah University

The design of the BSC followed the processes listed below:

Table-3. Stakeholder Perspective

Resources	Strategic Objectives	Indicators	Measures	Current Situation	Target
1. Students	1- Attract high quality students 2 - Development of high quality students	Number of students quality of education	-Initial student assessments - Initial success rates - High success rates - The role of graduation - Qualifications of teachers (primary) - Qualifications of teachers (higher) - Training programs for teachers	Poor (privilege, very good, good) Average Weak good - Master's campaign (79) lecturer - Doctoral campaign (105) lecturer - High diploma (1) lecturer The title of professor (2.2) lecturer The title of assistant professor (43) lecturer Title of teacher (7) teaching	- Work on increasing ratings for (privilege, very good, good) - Increase the success rate - Attention to input quality Increase the success rate of the first round and maintain its level and follow-up. - (21) teaching (Master). - (164) teaching (PhD). - (0) - (36) teaching. - (18) teaching. - (0) teaching. - Work to increase these training programs.
2. Parents and society	Community Development	Community satisfaction and parents	- Activities provided by the college to the community.	-Weak	Increase and follow up.
3. The members of the training body	The success of the educational process	Satisfaction of lecturers	- Number of computers - Projectors (Initial) - Smart Boards (Initial) - Display screens (top) - Smart boards (top) - Number of teaching staff offices A) Joint B) individually Teaching burden	-Very good - (5) display screen. - (0) smart plates. - (0) display screen. - (11) Very good. -Average -weakness -weakness	Maintenance and follow-up. (66) display screen. weakness (66) smart panel. weakness (11) screen. weakness (11) smart panel. Very good Need attention. Need attention. - Need to increase the number of teachers, except for the Department of Statistics.
4. University	1. Academic excellence 2. Improve the overall image	- Quality of teaching staff - University service unit.	- Conferences, seminars and study files. - The percentage of textbooks and the authors and the number of authors to the number of teachers - Number of supervisors - Number of researches completed and published Number of posts (exhibitions, seminars, sports activities ... etc)	-good -Weak -good -very good -Weak	- Maintenance and follow-up. - Increase financial support with a view to increasing them. - Maintenance and follow-up. - Maintenance and follow-up. - Follow-up and interest to increase.
5. Graduates	Efficiency and effectiveness of graduates	- Quality of students graduating and measuring the productivity of graduate students.	- Number of training courses. - Number of students enrolled in these courses.	-Weak. -Weak.	- Lack of financial support needs to increase. - Need to increase.

Table-4. Internal Processes Perspective

Resources	Strategic Objectives	Indicators	Measures	Current Situation	Target
1. Academic and educational excellence	-Scientific excellence and academic excellence	- Satisfaction of students and parents.	-Average number of students to teachers (primary). -Average number of students to teaching (higher). -Posts of sections to the number of sections.	-Poor (except statistics department) -good -Weak	-Need to increase the number of teachers (excluding statistics). -Maintenance and follow-up. -Need to increase.
2 - Excellence by means and materials And innovative courses.	- Discrimination and innovation curricula and ways and means of teaching.	- Quality of educational process.	-Number of laboratories (preliminary). -Number of laboratories (top). -Number of students to classrooms (primary). -Number of students to classrooms (higher). -Initial admission plan	- (5) laboratory computers - (131) printer - (0) laboratory computer - (0) Higher (Zero) printer - Violent very good - Volatile (weak)	32) Laboratory. (640) computers. (32) Printer. (4) laboratory. (28) computers. (4) printer. - 40 students per room. Maintenance and follow-up. - Needs prior planning.
3. Quality of scientific researches	- High quality and recognition of scientific research	- The quality of the educational process	-Number of participants in international conferences and seminars. -Number of scholarships, fellowships and fellowships for teachers. -Number of promotions. -Number of letters and letters	-Weak -Weak -good -very good	- Need financial support to increase it. - Need financial support to increase it. - More attention to increase the number of scientific promotions for teachers. - Maintenance and follow-up

Table-5. Learning and Growth Perspective

Resources	Strategic Objectives	Indicators	Measures	Current Situation	Target
1. Staff	Quality of Qualifications	-Number of faculty members	-College Affiliates to Qualifications. -Number of administrative staff to the job title. -Actual number of employees to planned -Number of training courses -Number of scholarships and study leave inside Iraq	- Weak - Good (growth) - drop - Good (learning and growth) - Weak	-Lack of financial support and non-redundant staff. -Conservation and follow-up. -Lack of financial support. -Conservation and follow-up. -The weakness of the faculty and thus increase the interest of these activities.
2. Buildings and facilities: a. Library b. University land: c. Lecture hall	Care and quality of facilities.	- Educational support services	- Library space -Number of library seats -Number of books, periodicals and dates -Sources of information: -Average number of books -Average number of addresses -Number of computers available in the library - Library staff -Number of shelves -Area of the Registration and Admission Division - Number of staff of the Registration and Admission Division - Total area. - Green space. -the number : - Capacity: - Area: - Dean's room: -Dean's office area A-parking of teachers and administrators - Parking space -Parking lot number B-Parking for	- Weakness (740 square meters) - Weak (27) seats - Very good (growth) - Weakness (5) book - Weakness (4) Title - Weakness (5) computers - Good (13) employees - Weak (416) shelf - (180) square meters weakness - (15) employees weakness (6250 m 2) - Weakness of 1340 m 2 - (2) Hall (growth) - Weak (100) students - (140) m 2 - (200) m 2 (very good) - (40 m 2) (power) very good - (20 m 2) (power) very good -2330 m 2 strength Position (strength)	- (757) - m 2. - (874) seats. - Maintenance and follow-up. - (10) - Book. - (5) - Title. - 17 - computers. - (11) - employees. - (724) - (322) - m 2 (17) - employees. - (112910) m 2 - (1563) m 2 - (2) Hall. - (200) students. - (280) m 2. - (200) m 2. - (30) m 2. - (10) m 2. - (2316 m 2) - (193) position - (3972 m 2) - (331) position

			students. - Parking area - Parking number	-32 position	
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Table-6. Financial Resources Perspective

Resources	Strategic Objectives	Indicators	Measures	Current Situation	Target
1. Financial management	1. Rationalize the use of financial resources. 2. The efficient use of non-financial resources. 3 - Cover all the costs of the required educational process.	<ul style="list-style-type: none"> Financial financing Operating expenses Operating expenses 	<ul style="list-style-type: none"> The percentage of the transfer to the custom transfer. Ratio of actual costs to allocated financial resources. Ratio of actual operational costs of beneficiary resources to financial resources allocated to each beneficiary. Ratio of actual operating costs (section) to total actual operating costs 	<ul style="list-style-type: none"> Reduction. Reduction. Reduction. Weakness. 	<ul style="list-style-type: none"> Because of the economic situation of the country. Because of the economic situation of the country. Limited funding. Address the actual cost bottlenecks of the morning study by evening study income.
2. Operating revenues	Achieving financial success	-Financial resources allocated	<ul style="list-style-type: none"> Comparison of annual revenues at the level of the two studies. The rate of increase of total annual revenues relative to the total amount of funding. 	- Revenue growth of the evening for the morning	- Follow-up and maintenance.

Furthermore, a FBSC is a strategic planning tool for improving resource efficiency. The processes followed in improving the efficiency of resources and the implementation of the SBSC are used in determining the strengths and weaknesses of the Faculty of Management and Economics. The study applied quality standards of the academic accreditation of the Arab and Iraqi universities using quantitative and descriptive indicators for the future strategic plan according to the BSC. For each scale, the level of achievement of the target must be verified to achieve the goal and the identification of the strengths and weaknesses at the level of each perspective to address the weaknesses. Thus, the second hypothesis was accepted:

“Four benchmarks, metrics and targets are employed for a sustainable card designed to improve the efficiency of the research sample resources”.

5. Conclusion

This study concluded that the adoption of a BSC as a tool following the philosophy of strategic planning was achieved by formulating a vision, mission, and strategic goals. These parameters were incorporated into sustainable dimensions and issues through the comparison of the criteria of actual reality of the academic accreditation with quantitative indicators such as weight. The weights were also meant to identify the strengths and weaknesses. Moreover, the operational goals aimed at achieving the main objective of the success and its sustainability within the colleges, institutions, and universities of Iraq. Due to the low level of success among students, there was low level of quality for graduates as the number of students with high ratings was low. The development of academic skills was also negatively affected by the low level of the number of training courses provided by the college for teachers. This, in turn, was reflected in the quality of the educational process and the goal of the development of high quality students was not achieved.

This study recommended further research on this tool for its ability to integrate the development of a BSC with aspects and dimensions of sustainability. This combination could enhance efficient utilization of the resources in the Faculty of Management and Economics at Mustansiriyah University and Iraqi universities in general. Moreover, as a basis for comparison between the dimensions, the quality standards of academic accreditation could be applied. The

application of the actual data from the Faculty of Management affiliated to the Mustansiriyah University could yield positive results.

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