

The Use of the Balanced Scorecard in Improving Health Performance - The Study of the Health Sector in Iraq

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Abstract— The research deals with one of the most important techniques in evaluating the performance of entity, balanced scorecard, in order to evaluate the performance of health entities. Then it considers the possibility of improving performance in these entities. The research depends on the basic premise that "the use of a balanced scorecard will not just evaluate performance, but also improve it". The research deal with the most important literature available at Balanced Scorecard. Because of the qualitative shift in the field of performance measurement, the Balanced Scorecard offers various types of indicators and indicators, through its multiple and comprehensive perspectives, both financial and non-financial, which serve in the process of evaluating performance. This research absorb number of important conclusions in this area.

Keywords— Balanced Scorecard, performance measurement, performance evaluation, health sector, Performance improvement.

I. INTRODUCTION

The Balanced Scorecard (BSC) is one of the most important techniques in evaluating the performance of entities. Balanced Scorecard represents a qualitative leap in the field of performance measurement. Through its multiple and comprehensive perspectives, the BSC offers various types of metrics and indicators, both financial and non-financial, that serve in the process of evaluating performance.

The process of strengthening performance through the BSC will result in the determination of strengths and weaknesses in performance. BSC can avoid weaknesses, and strengthen the strengths, which will improve the performance of any entity.

The health institutions in Iraq, which suffers from poor performance and the futility of current performance assessments, will discuss as a field of research. Despite the development of the Iraqi environment after 2003, it has not kept pace with the global development in all areas in general and the health sector in particular. The government uses only financial (traditional) measures and indicators in the performance assessment process, which reflect in the poor quality of health services provided to patients. The traditional assessment (based on financial expenditure indicators only) does not provide appropriate measures to improve service delivery, does not give a clear view of actual performance, does not clearly define strengths and weaknesses in performance, nor provides a good opportunity for development. Therefore, there is a need to find and implement a strategic approach in the assessment process for developing

health performance, using a BSC, by diagnosing strengths and weaknesses using modern methods and methods in evaluating performance.

The research aims to evaluate the performance of the health Entities in Iraq using a strategic technique of BSC, using the set of financial and non-financial indicators and standards. In order to identify the possibility of improving performance in a manner consistent with the current environment developments, the researchers develop a performance evaluation model with a mechanism that helps to reconcile the strategic performance of the entity with its operational performance.

The importance of research is to consider the possibility of using the BSC as a serious attempt to contribute to improving the performance of the Iraqi health entities. As well as making them, more able to build strategic decisions in planning and control based on the variables of financial aspects, operational, learning level, environmental impacts, Community, and risk group.

II. LITERATURE REVIEW

A. Balanced Scorecard

Because of rapid developments and changes in the external environment and increased competition, in the first quarter of 1992, Harvard Business Review (Issue 75) presented article entitled "Balanced Scorecard Performance Standards" as a modern performance appraisal technique. BSC result of the negative results from the failure of traditional performance measures (based on financial aspects) (Pollanen & Xi, 2018). The authors of the article, Robert Kaplan & David Norton, also reviewed the need for a contemporary approach to the overall evaluation of entity performance, taking into account financial and non-financial indicators related to quality, market size, customer satisfaction, and staff. Which gives a clear and comprehensive picture of the performance of the entity (Kaplan & Norton, 1992).

a. The concept of balanced scorecard

Several definitions of a balanced scorecard have been introduced, each definition focus on a particular part or aspect of the assessment process (Soderberg, 2006). One of the definitions express as a set of financial and non-financial indicators that give the administration a clear, comprehensive, and quick view of the performance of the entity (Kaplan & Norton, 1992). Some researchers see it as a set of success

factors that include performance measures and objectives, which emphasize the convergence of appropriate entity objectives with critical success factors (Atkinson, et.al, 1998). While others express it as a practical framework for measuring performance, this framework includes two goals; first, translating the strategy into specific goals; and second, delivering that strategy to all parts of the entity (Sleihat & Almahamid, 2013). Others believe that performance assessment is based on the behavioral aspects of individuals, as they are the way to achieve strategic goals, so the Balanced Scorecard is a system of measuring and evaluating performance based on the behavior of working individuals in order to achieve the desired goals (Davis & Albriht, 2000).

In spite of the multiplicity of concepts presented to the Balanced Scorecard, a comprehensive concept can be formulated as "a technique that translates the strategy of the entity into clear objectives, using a range of financial and non-financial measures, that changes with great competition and changes in foreign markets, Joint assessment of short-term operational performance in the light of long-term strategic performance". BSC gives a true picture of:

- 1) Performance of the entity;
- 2) The extent to which the entity can maximize profits;
- 3) Maintain customer and market share.

b. The importance of the balanced scorecard

The importance of a balanced scorecard (Northcott & Ma'amora, 2012: 41) (Horngren, et.al, 2008: 463) (Noureddine, 2005: 53)

- 1) To the extent that gives a clear picture of the performance and its compatibility with the achievement of goals, BSC translates the strategy of the entity to the goals and standards.
- 2) Achieve a balance between the performance measures, objectives, and interests of all beneficiaries of the performance evaluation process.
- 3) Contrary to what conventional measures (which deal with past events, without providing us with how to use them for the purpose of evaluating future performance), the set of financial and non-financial measures, that assess the performance of entities in the present and future.
- 4) In order to enable the entity to enhance its competitive advantage. It emphasizes the continuity of the entity in its activity by continuously improving performance.
- 5) Because of the interrelationship of financial and non-financial perspectives, it is a tool for learning, creativity, and innovation to reach strategic objectives (e.g., customer satisfaction, maximizing the competitive position of the entity) in the context of available resources.

c. Balanced scorecard perspectives

Entities are varying in many aspects, including organizational structure, capital's nature, product, and patterns of customers (Sekaran & Bougie, 2016). Therefore, it is not possible to provide a unified model for a BSC that is suitable for all entities, even if they operate in the same sector and are similar in activities (Soderberg, 2006). Entities must design a BSC that matches their goals, strategies technology, and

culture (Kaplan & Norton, 1993). The BSC should be designed to take into consideration the characteristics of the entity, which effectively answer four following questions (representing the BSC's core components) (Hansen & Mowen, 2007):

- 1) How do we look to shareholders?
- 2) How do customers see us?
- 3) What must we excel at?
- 4) Can we continue to improve and create value?

Lipe and Salterio, 2002; Chenhall, 2005, added two other questions:

- 5) Can we meet requirements of society and protection of the environment?
- 6) How entities avoids the risks that it drives?

These questions reflect the perspectives of the BSC with its strategic dimension in the process of evaluating performance. These perspectives are:

- i. *Financial Perspective (FP)*: The criteria and objectives of this perspective link to other benchmarks and targets. FP Aims to achieving efficiency in guiding and evaluating future performance (Sleihat & Almahamid, 2013). Thus, FP enhance customer value, quality, internal processes, education, and growth that contributes to the achievement of positive financial metrics and adds value to shareholders. The objectives of this perspective can be achieved through revenue growth, cost reduction, productivity improvement, and asset utilization. They are the basis for improving specific operational objectives and benchmarks (Panicker & Seshadri, 2013). The measures of this perspective relate to the profitability of the product and the customer, the cost of producing the entity and the return on investment.
- ii. *Customer Perspective (CP)*: Entities lost control of the revenue side of balance sheet significantly, This is due to Changes in current competition and market openness (Niven, 2011). The competition has shifted towards satisfying the customer, who has become the main controller in revenue. Therefore, one of the top priorities of top management is to seek the satisfaction of the customer, which can be achieved in four areas: quality, service performance, time, and cost. To achieve the financial objectives, this perspective seeks crucial (Narayanamma & Lalitha, 2016). CP aims to increase market share, increase customer retention, improve product quality, and deliver goods and services in a more streamlined manner.
- iii. *Internal Processes Perspective (IPP)*: This perspective seeks to achieve common objectives relate to the financial perspective and the customer (Mohammed, 2007). Here, the pursuit of entity to meet the needs and desires of the customer requires a set of internal processes and improvements that are able to achieve this goal, to enhance customer's value, focus on the financial perspective, and increasing the value of shareholders (Michalska, 2005). The objectives of IPP are to increase new products, the quality of operations, and reduce the time of operations.

- iv. *Learning and Growth Perspective (LGP)*: Entities characterized by the quality of their employees in terms of efficiency and efficiency, that help them to adapt a rapidly changing environment (Lucianetti, 2010). In order to achieve adaptation, training and education of personnel on the various information systems and new technologies should be continued to achieve current and future objectives, related to the customer and the internal processes of renewal (Davis & Albaright, 2000). The objectives of LGP are to increase staff capabilities, increase the capacity of information systems, increase motivation and development.
- v. *Society Environment Perspective (SEP)*: The success and continuity of the entity link to the welfare of the community and environmental safety by providing high quality products and prices acceptable to the community, as well as protecting the environment and citizens' health from the dangers of pollution (Lipe & Salterio, 2002). This enhances the role of the entity in meeting the needs of the community (which operates in the neighborhood). SEP requires the management of the entity to enhance its social performance. This is done from a broad perspective of managing interests of shareholders, customers, and employees in a way that ensures balance between them and reflects on the goal of maximizing profit (Pollanen & Xi, 2018). The objectives of SEP are to create new jobs and to grow in environmental protection costs.
- vi. *Risk Perspective (RP)*: Entity deals with two types of risks. First, systemic risk, which relates to market risks affecting all entities, which are produced by common factors and affects the economic system as a whole. This kind of risk cannot be controlled like a general strike, wars, coups, or recession (Sekaran & Bougie, 2016). The second one is the irregular risks, which are exceptional due to the factors of the entity, which affect them in particular and are based on two types of business risks, and financial risks (Samarrai et al., 2012). The objectives of RP are to improve the selling price of product and the participation of those involved in the formulation of the strategy.

B. Performance Evaluation

a. Performance concept

Multiple performance definitions can be summarized as follows:

- i. Performance means the objectives of the outputs, or the objectives that the system seeks to achieve, a concept that reflects both the objectives and the means to achieve them, that is, a concept that connects the aspects of activity and the goals that the same activities seek to achieve within the organization (Siam, 2010).
- ii. We cannot talk about the performance of the institution unless we are able to achieve the strategic objectives, which means that the successful institution is the institution that can achieve its goals. The goals should be established and expressed in results, which consider

the resources involved (e.g. less waste of resources) (Dadi et al., 2010: 12).

- iii. (Miller, Bromily) defines it as "a reflection of how the institution uses financial and human resources and exploits them efficiently and effectively in a way that makes them able to achieve their goals" (Roy, 2010).
- iv. The performance evaluation of health entities can be defined as "the extent to which these entities are able to achieve health care objectives, which they seek to achieve." The performance evaluation of health entities includes many aspects of health care, including programs, individuals, and costs.

b. The importance of performance evaluation

The importance of evaluating performance is as follows (Diab, 2010):

- i. Develop performance standards for the employees in the unit, and then adopting them as performance indicators or reaching them by the employees.
- ii. Compare performance measures to criteria that have been set for planned performance.
- iii. Make hospital personnel always know when their performance is less than should be the main objective of the performance appraisal process, which is focused on developing performance in the work through the following methods:
 - 1. Develop standards for performance that employee can access, and use these standards to measure their performance.
 - 2. Measure the level of performance achieved by employees in order to reestablish new standards and improve performance to the highest.
 - 3. Through the evaluation process, the entity can identify the strengths and weaknesses, their negative and positive effects on the productivity of the individual, and the effectiveness of entity.
 - 4. Helps to provide management levels with means to measure and plan performance within the entity, and thus rely on correct and realistic facts when making decisions. It also contributes to the detection of the potential of the workers, which reflect positively on achieving the productive efficiency of the entity.

c. Performance evaluation objectives

The objectives of performance assessment are to manage health institutions (Saffar, 2009):

- i. Performance assessment is an indicator of the development and growth of hospital and health institution management.
- ii. Increasing the effectiveness and efficiency of administrative decisions at all administrative levels in the hospital.
- iii. Develop standards and guidelines for evaluating hospital management so that they are appropriate and developed over time for the various medical, nursing, administrative and financial departments of the hospital.
- iv. Link performance assessment with other systems used by the hospital management, for example, to link

performance assessment with incentive systems, reward systems, promotion systems, other opportunities, or any systems that management deems necessary to be applied to the hospital.

- v. The performance evaluation process is necessary for overall repair and repair purposes, indicating the satisfaction of staff with management performance, and patient and review satisfaction.
- vi. Reflection level of performance on competition and hospital reputation.

d. Performance evaluation criteria

Determining the performance criteria on which to evaluate performance is an important step in the performance appraisal process. Performance standards are numerous and multiple, and financial indicators are many and varied, so choosing the appropriate standard on which to judge the performance of the organization is accurate. Even for projects with limited activity, evaluation is difficult, and each weight criterion should be given relative importance. The relative importance of the standard depends on its relevance to one of the objectives of the entity, and the degree of importance and weight of that objective for the group of other objectives (Al Kaabi & Amran, 2011).

Standard is defined as a general concept as a means of measurement that can be used to make an objective judgment on a given situation (Karkhi, 2001).

The performance criterion refers to a brief statement describing the result expected to be reached by the manager who performs the required currency.

Olson (2002) sets out a set of considerations and controls that must be observed when designing performance standards. These considerations and controls depend on the effectiveness and accuracy of information:

- i. Validity: In the sense that standards measure things that are designed to measure.

- ii. Reliability: Stability is about measure and not performance because performance changes or fluctuates.
- iii. Discrimination: the ability of the meter to distinguish between different levels of performance.
- iv. Practicality: Measurements must be easy to use and clear, and the measurement process must be characterized by the lack of time and effort together.

Therefore, precisely defining the standards helps to achieve the organization's strategic objectives. The achievement of standards will achieve the organization's mission, survival and sustainability, so the standards must be realistic, not ideal (i.e., unattainable).

e. Steps to improve performance in the health institutions

There are several steps to improve performance (Bloomquist and Yeager, 2008)

- i. Support top management
- ii. Central involvement of doctors and some flexibility at lower levels
- iii. Demonstration of experimental benefits
- iv. Cascading to lower levels
- v. Continuous communication with all staff
- vi. Management review and regular monitoring
- vii. Support for information technology for monitoring and reporting on performance

III. RESEARCH METHODOLOGY

Research is based on two approaches; Descriptive approach, for the purpose of the theoretical definition of research variables according to the authors and researchers; And the analytical approach, by analyzing the field reality and financial data of the health institutions of the research sample

The strategic performance is evaluated according to the requirements of the Iraqi Ministry of Planning, and according to the specific weights for each perspective, through Table 1 below.

Perspective	The scale	Measurement 2017	Measurement method 2017	Ind.2017
Financial	* Return on investment	Net profit/ Total assets) *100	(345,612,866/ 11,112,937,245) *100	3.1 %
	* Return on equity	(Net profit/ Owner s Equity) *100	(345,612,866/ 20,423,665,455) *100	1.7 %
	* Sales revenue growth	((Sales current year - sales prior year) / sales prior year) *100	((21,224,794,500 -10,957,843,520)/ 10,957,843,520) *100	93.7 %
	* Sales profitability	(Net profit / Net Sales) *100	(345,612,866 /21,224,794,500) *100	1.63 %
	* Quick liquidity ratio	((Current Assets- Inventory) /Current liabilities) *100	((36,981,410,896 -13,321,165,273)/ 24,756,356,390) *100	95.6 %
* Objective	Return on investment(Increase the benefit of assets), Return on equity(profitability), Sales revenue growth(profitability),Sales profitability (profitability),Quick liquidity ratio(Liquidity).			
customer	* market share	(Total company sales volume / Total sales volume in the industry sector) *100	(280,312/ 1,056,160) *100	26.5 %
	* Growth in sales volume	((Sales volume for customers in the current year - Sales volume for customers in the prior year)/ Sales volume for customers in the prior year) *100	((399,923 – 370,701) /370,701) *100	7.88 %
	* proportion of defective units	(Damaged units / Total company sales volume) *100	(7,586 /280,312) *100	2.70 %
	* Rate of repair requests	(Number of requests for repairs of units sold / Total sold units) *100	(57,661/ 280,312) *100	20.57 %
* Objective	Market share (Increasing market share), Growth in sales volume (Keep customers and earn their loyalty), proportion of defective units (Production quality), Rate of repair requests (Quality of the product sold).			
Internal processes	* Productivity materials	(Quantity of output / Quantity of materials in production) *100	(280,312 /2,649,344) *100	10.58 %

Perspective	The scale	Measurement 2017	Measurement method 2017	Ind.2017
	* Worker productivity	Number of units produced / Number of employees or hours of working	280,312 /1,689 emp.	166 units
	* The proportion of exploitation Available capacity	Actual production volume / Capacity available volume) *100	(280,312 /1,166,000) *100	24.04 %
	* Percentage of damage	(Damage volume / Quantity of materials and good parts) *100	(92,638 /2,649,344)*100	3.49 %
	* Growth of quality control expenses	((Quality control expenses for the current year – quality control expenses for the prior year) /quality control expenses for the prior year) *100	((450,410,991 – 409,650,947) /409,650,947) *100	9.95 %
* Objective	Productivity materials (Increased material productivity) , Worker productivity (Increased material productivity) , The proportion of exploitation Available capacity (Increased utilization capacity available) , Percentage of damage (Quality input process production), Growth of quality control expenses (Quality inspection of production stages).			
Learning and growth	* Employee turnover	(Number of employees leaving work / Total number of employees) *100	(74 /2981)*100	2.48 %
	*Growth in training and rehabilitation expenses	((Training and rehabilitation expenses for the current year - Training and rehabilitation expenses for prior year) / Training and rehabilitation expenses for prior year) *100	(15,662,160 – 10,563,780) /10,563,780) *100	48.26 %
	*Proportion of frontline employees	(Number of frontline workers / Total number of employees) *100	(31 /2981) *100	1.04 %
	*Growth in workers' Bonus	(Bonus paid to workers for the current year – Bonus paid to workers for the prior year / Bonus paid to workers for the prior year) *100	((115,652,160 –101,533,780) /101,533,780) *100	13.82 %
	*Growth in development research expenses	((R & D expenses for the current year -R & D expenses for the prior year) / R & D expenses for the prior year)*100	((13,652,250 – 10,423,750) /10,423,750) *100	30.97 %
* Objective	Employee turnover (Retain employees) , Growth in training and rehabilitation expenses (Improve staff capabilities) , Proportion of frontline employees (Increasing the capacity of customer-related information systems) , Growth in workers' Bonus (Employee satisfaction) Growth in development research expenses (innovation and creativity).			
Community Environment	* Participants in training courses	(Participants in training courses /Total number of employees) *100	(631 /2981) *100	22.84 %
	*Growth in employee service expenses	((Expenses on service of employees for the current year - Expenses on service of employees for the prior year) / Expenses on service of employees for the prior year) *100	((217,658,480 – 133,738,320) /133,738,320) *100	62.75 %
	*Growth in after sales expenses	((Expenses on after sales services for the current year -Expenses on after sales services for the prior year) / Expenses on after sales services for the prior year) *100	((103,175,835 -89,197,484) /103,175,835) *100	13.55 %
	*Percentage of new job opportunities	(Number of new job / Total number of employees) *100	(11 /2981) *100	0.37 %
	*Growth in environmental protection expenditures	((Environmental expenses for the current year –Environmental expenses for the prior year) / Environmental expenses for the prior year *100	(1,195,632 – 1,157,424) /1,157,424) *100	3.30 %
* Objective	Participants in training courses(Increase staff efficiency) , Growth in employee service expenses(Service workers), Growth in after sales expenses(Customer service) , Percentage of new job opportunities(Creating new jobs) , Growth in environmental protection expenditures (Protect the environment from pollution).			
Risk perspective	*Change in product prices	((Product prices for the current year - Product prices for the prior year) /Product prices for the prior year) *100	(6,500 – 6,000) /6,000) *100	8.33 %
	*Change in input prices	((Price of raw materials for the current year -Price of raw materials for the prior year) /Price of raw materials for the prior year) *100	((65 –51) /51) *100	27.45 %
* Objective	Change in product prices(Improved product selling prices) , Change in input prices (Low input prices)			

The indicators are used in (Samurai & Others (2012) "Strategic Cost Management", first edition, Al Jazeera for printing and publishing.)

Perspective	the scale	Standard*	*Distribution ratio	Indicator	Evaluation
Financial	Return on investment	4	2 -2.5 %	3.1 %	High
	Return on equity	5	2- 1.75 %	1. 7 %	High
	Sales revenue growth	5	Above 75 %	93.7 %	High
	Sales profitability	3	1.5 - 2 %	1.63 %	Average
	Quick liquidity ratio	5	90 – 95 %	95.6 %	High
Total Perspective		22		21	
customer	market share	3	27.5 – 35 %	26.5 %	Low
	Growth in sales volume	4	7 – 9 %	7.88 %	Average
	proportion of defective units	1	Above 3 %	2.70 %	Low
	Rate of repair requests	1	Above 19 %	20.57 %	High
Total Perspective		9		6	
Internal processes	Productivity materials	0.5	Less 15 %	10.58 %	High
	Worker productivity	3	Above 110 %	166 units	High
	The proportion of exploitation Available capacity	2	20 -30 %	24.04 %	Average
	Percentage of damage	1.5	3 – 3.5 %	3.49 %	Average
	Growth of quality control expenses	1	5 – 10 %	9.95 %	High
Total Perspective		8		6.25	
Learning and growth	Employee turnover	0.5	Above 1.5 %	2.48 %	High
	Growth in training and rehabilitation expenses	2.5	39 – 51 %	48.26 %	High
	Proportion of frontline employees	1.5	1 – 1.5 %	1.04 %	Average
	Growth in workers' Bonus	2	5 – 15 %	13.82 %	High
	Growth in development research expenses	1	Less 35 %	30.97 %	High
Total Perspective		7.5		6.75	
Community Environment	Participants in training courses	4	Above 20 %	22.84 %	High
	Growth in employee service expenses	4	Above 55 %	62.75 %	High
	Growth in after sales expenses	1	10 – 20 %	13.55 %	High
	Percentage of new job opportunities	0.5	Less 1 %	0.37 %	High
	Growth in environmental protection expenditures	0.5	Less 5 %	3.30 %	High
Total Perspective		10		10	
Risk perspective	Change in product prices	1	Less 10 %	8.33 %	High
	Change in input prices	2	Less 30 %	27.45 %	High
Total Perspective		3		3	
Total		59.5		53	

IV. CONCLUSION AND DISCUSSIONS

Through the previous conceptual presentation and the results of the indicators, the authors reached several conclusions, including;

The great convergence between the results of the financial perspective and the criteria set by (95.5%), which reflects the high return on investment and return on equity and the turnover rate of funds. While profitable sales came at a low rate compared to the previous results. The customer perspective has achieved (66.67%) compared to the criteria set, which indicates that the research sample is based on profitability without focusing on customer satisfaction. The perspective of internal operations by (78.13%) compared to the standards set, when compared with what achieved the perspective of the customer and financial perspective. Authors find that the health institutions in Iraq depend largely on medical staff in government sector, with a significant reduction in basic health requirements, as well as not investing in them.

Achieving the perspective of education and growth (90%) compared to the standards set, that reflects the significant decline in both of the provision of courses, and advanced teaching methods. This can maximize the results of other perspectives of the BSC, as the percentage achieved by the efficiency of medical staff external beneficiaries of sample assets. The congruence between the results of the perspective of the community environment and the criteria set reflects the

significant decline in health services provided by government health institutions, farther more the reduction of alternatives to the customer. The conformity of the risk perspective with the established criteria was the result of the government's move towards issuing the founding approvals of the non-governmental health institutions in a political manner. When comparing the balanced scorecard with the overall set of criteria, authors find that the research sample (health institution) achieved (89.07%), which requires the government health institutions to focus on maximizing results of the customer's perspective and operations, in order to achieve positive results reflected on customer satisfaction, and maximize all BSC perspectives.

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