Balanced scorecard in the integration of corporate strategic planning and performance: a literature review

Hanni Alqili Laury*, Nazzaruddin Matondang and Meilita Tryana Sembiring

Magister of Industrial Engineering, Department of Industrial Engineering, Faculty of Engineering, Universitas Sumatera Utara, Medan, 20155

*Email: hannialqili.laury@gmail.com

Abstract. The purpose of this paper is to review the model literature Balanced Scorecard (BSC) from 2008 to 2017 in order to provide reference guidance to researchers, particularly with regard to the context and focus of previous research, and various methodology approach to the assessment of performance measurements from the perspective of Balanced Scorecard. The primary objective of this study is to analyze the application of BSC in various specific areas, as well as investigating its extension. The methodology used in this study is a literature review of published articles. The searching of the literature was conducted based on research objectivity from an online search of relevant literature. The findings from the review are summarized. Then, the authors have an analysis of the identified articles.

1. Introduction

Performance measurement may sound simple, but it's often a complicated process that requires deep strategic thinking and evaluation. Various factors make performance measurements a complicated process. Sometimes, knowing what is measured is not so obvious. This is especially true for public sector organizations, where managers can complain that they are responsible for goals they cannot fully control.

[1] in this study have identified some of performance measurement concept, First, performance measurement refers to the use of a set of multi-dimensional performance measures, Second, performance measurements cannot be performed separately, and is only relevant in terms of reference that can be assessed for efficiency and effectiveness of its actions, Third, performance measurements impact the environment in which it operates. Fourth, performance measurements are now used to assess the impact of the action on the organizational stakeholders whose performance is measured.

In the management of the Human resources department, the task of evaluating performance is crucial. Performance evaluation is an important function in one way or another usually done in any modern organization. Performance evaluation is an instrument used to verify the level of fulfillment of the proposed objectives at an individual level. When evaluating performance, organizations obtain information for decision making: If performance is lower than specified, corrective action must be taken; If performance is satisfactory, it must be encouraged.

[2] differentiate between organizational effectiveness and organizational performance in two concepts. The Organizational Performance includes three specific areas of the company's outcomes, such as financial performance, product market performance, and the return of shareholders. Meanwhile, Organizational Performance is broader and captures the performance of the organization plus most internal performance results usually associated with more efficient or effective operations and other external measures relating to the consideration than those associated with economic assessments.
The main purpose of this paper is to conduct an analysis of the literature of Balanced Scorecard (BSC) taking its Extention and importance cases into consideration as well as investigating its application in specific areas. This is followed by an overview of performance measurement with the BSC approach. The paper is structured as follows, section 2 following this describe the literature overview of performance measurement with the BSC approach. The research methodology is presented in section 3. In-depth analysis of the previously existing literature study on Balanced scorecard and its applications are carried out in section 4. Finally, the conclusion is discussed in section 5.

2. Literature overview

2.1. Decision making of performance measurement with balanced scorecard (bsc)

In a study conducted by [3], during a period 2007-2014, they have reported and have identified most frequently methods to measure the performance management, such as management accounting, process management accounting method, controlling, financial performance indicators, Balanced Scorecard (BSC), Total Quality Management, Six Sigma, Benchmarking, Value-Based Management (VBM), Theory of Constraints, and Lean Production.

Balanced Scorecard (BSC) is a very useful tool in the strategic planning process that allows to illustrate and communicate the strategy in a coherent and explicit procedure, and this method proposed in the HBR January-February 1992 ("Balanced Scorecard-Measures Driving Performance"), gives executives a comprehensive framework that translates corporate strategic objectives into a series of Coherent performance measures [4]. Balanced Scorecard (BSC) was created in 1990s by Kaplan and Norton and to represents one of the most significant the ideas of management, and in 2001, they established that the BSC has as its main objective to turn a company's strategy into action and result, by aligning the objectives of all perspectives; financial, clients, internal processes as well as learning and growth.

The concept of BSC was first implemented in 1992 and as a performance evaluation system, especially for 12 companies in the US. The purpose of the implementation of the BSC method in the companies is to make necessary changes in the traditional performance evaluation model to find a more comprehensive and effective evaluation of the Organization's performance [5].

In an article of “Support of Quality Management System and Balanced Scorecard in The Integration of Normative, Strategic and Operational Management”, researchers [6] have argued that BSC focuses on management's attention to performance management; Focus on users can increase organizational flexibility in modifying strategies in response to changes in environmental conditions. Through its management process, BSC enables the integration of all decision levels in the organization in the planning process, which is to formulate and implement measurement strategies, performance controls, and feedback. Moreover, [6] stated that BSC assists in monitoring and controlling the implementation of the strategy within a certain period of time, as well as in formulating and redefining strategies.

Basically, BSC is based on the proper Balanced and alignment between the elements of global strategy and its operational elements. Global elements are mission (our goal), vision (what we aspire), core values (what we believe), perspective and purpose. On the other hand, the operational elements are the main indicators or KPIs (whether an induction indicator or a result) and strategic initiatives (projects that help you achieve your goals).

In 2016, [7] have studied the BSC in the finance industry sector, noted that BSC is based on the acquisition of data about intangible asset elements to present an indicator obtained in the form of a result list or in the form of graphic depictions. BSC can be implemented relatively easily at every level of the organization, and they represent 'bottom-up' access that allows more detailed, accurate and faster granularity of the company's property categories rather than the direct measuring method or market capitalization model. Due to its wide applicability and ease of use, BSC has been studied extensively for the last 20 years. In the next section, the authors will focus on attention to present and summarize the BSC combination and integration with others methods.
3. Research methodology.
The purpose of this paper is to review the Balanced Scorecard (BSC) literature from 2008 to 2017, with a reference guide, specifically with regards to the context and focus of previous studies, and the different methodological approaches for the assessment of the performance measurement. In the search process key terms used were “performance measurement” and “Balanced Scorecard”. Additional studies were selected from reference lists. A total of 20 articles have been identified and reviewed were published in the following articles, as follow:

4. Survey of existing literature on balanced scorecard and its applications.
Due to its extensive application and the advantages, Balanced Scorecard (BSC) has been extensively studied by several studies for the last 20 years. This approach has been widely used by several other researchers who aimed to explore the performance measurement. Lately, BSC has been studied and proposed to combine with others method. As shown in Table 1, there is numerous other method combined BSC in various sectors. Much of the research done on Finance industry, Automotive industry, Electrical Industry, Small and Medium-Sized Enterprises (SMEs), Healthcare, Government institution, Restaurant, Public and Private Hospital, Education Institution, Service and Food sector, even in applied in Local authorities. Table 1 below summarized the investigates of the applied of BSC.

| Title | Authors | Approach | Specific Areas |
|-------|---------|----------|----------------|
| Development of An Interactive System to Enhance Strategic Planning Process and Quality of Aviation Operations Using Balanced Scorecard: A UAE case study | Hussain et. al (2017)[8] | Balanced Scorecard combined SQL Server, JavaScript library using the JQuery that supports Ajax (JavaScript & XML), and Model View Controller (MVC) | Operational ICT Systems, Backend Services, Data Warehouse, Enterprise Resource Planning (ERP) and Customer Resource Planning (CRM) |
| Knowledge and Use of the Balanced Scorecard Method in the Businesses in the Slovak Republic | Lesáková and Dubcová (2016)[9] | Balanced Scorecard combined Statistics (Spearman coefficient, Exact Binomial test, Chi-square test) | Bussines Industries (Small, Media and Large Bussines) |
| Financial and Marketing Perspective of A Company According to The Concept of Strategic Balanced Scorecard | Anicic et.al (2016) [7] | Balanced Scorecard combined ROE (Return on Equity), ROCE (Return on Capital Employed) and DuPont method | Finance Industry |
| Supplier Selection in Automobile Industry: A Mixed Balanced Scorecard-Fuzzy AHP Approach | Galankashi et. al (2016) [10] | Balanced Scorecard combined Fuzzy AHP | Automotive Industry |

Table 1. Selected reviewed articles on balanced scorecard.
Table 1. Selected reviewed articles on balanced scorecard (continue).

| Title                                                                 | Authors                        | Approach                                      | Specific Areas                                      |
|----------------------------------------------------------------------|--------------------------------|-----------------------------------------------|-----------------------------------------------------|
| Performance Measurement for Local Authorities in Sarawak             | Hamid et al (2016) [11]        | Balanced Scorecard combined Key Performance Indicators (KPIs) and Total Quality Management (TQM) | Local Authorities                                   |
| Performance Measurement of Electricity Suppliers Using PROMETHEE and Balanced Scorecard | Osati and Omidvari (2016) [5] | Balanced Scorecard combined Promethee method   | Electrical Industry                                 |
| Developing A Lean Supply Chain Performance Framework in A SME: A Perspective Based on The Balanced Scorecard | Afonso and Cabrita (2015) [12] | Balanced Scorecard combined AHP, Lean Supply Chain (LSC), and Supply Chain Management (SCM) | Manufacture Sector (Small and Medium Sized Enterprises/SMEs) |
| Balanced Scorecard: Translating Corporate Plan into Action. A Case Study on University of Kelaniya, Sri Lanka. | Senarath and Patabendige (2015) [13] | Balanced Scorecard combined Statistics (5-Likert Scale) | Education Institution (University of Kelaniya, Sri Lanka) |
| Organizational Structure and Performances of Responsible Malaysian Healthcare Providers: A Balanced Scorecard Perspective | Shukri and Ramli (2015) [14] | Balanced Scorecard combined Network Data Envelopment Analysis (DEA), Supply Chain and Decision Making Trial and Evaluation Laboratory (DEMATEL) | Healthcare Industries (Private Hospitals) |
| Supply Chain Performance Evaluation with Data Envelopment Analysis and Balanced Scorecard Approach | Shafiee et al (2014) [15] | Balanced Scorecard combined Network Data Envelopment Analysis (DEA), Supply Chain and Decision Making Trial and Evaluation Laboratory (DEMATEL) | Food Industry (Supermarket) |
| Performance Measurement of Administration Services Using Balanced Scorecard and Kano Model | Danaei et al (2014) [16] | Balanced Scorecard combined KANO method, and Statistics | Government Institution (Offices in Semnan City, Iran) |
| Balanced Scorecard and Performance Measurement in a Greek Industry Balanced Scorecard in Hospitality | Kartalis et al (2013) [17] | Balanced Scorecard combined SWOT-AHP Balanced Scorecard combined Statistics | Bussines Company |
| Performance Measurement Using Balanced Scorecard: A Case Study of Pipe Industry | Liu and Chen (2013) [18] | Balanced Scorecard combined KANO method, and Statistics | Restaurant industry |
| Performance Measurement Using Balanced Scorecard: A Case Study of Pipe Industry | Danaei and Hosseini (2013) [19] | Balanced Scorecard combined KANO method, and Statistics | Manufacture (Pipe industry) |
| A Balanced Scorecard Approach to Perioperative Process Management: A Case Study Perspective | Ryan et al (2013) [20] | Balanced Scorecard combined KANO method, and Statistics | Healthcare Industry (University Hospital) |
| Research Frontiers in Public Sector Performance Measurement | Zhonghua and Ye (2012) [21] | Balanced Scorecard combined KANO method, and Statistics | Chinese Public and Private Sector |
Table 1. Selected reviewed articles on balanced scorecard (continue).

| Title                                                                 | Authors                          | Approach                          | Specific Areas                        |
|----------------------------------------------------------------------|----------------------------------|-----------------------------------|---------------------------------------|
| Support Of Quality Management System And Balanced Scorecard In The Integration Of Normative, Strategic And Operational Management | Živojinović and Stanimirović (2012) [6] | Balanced Scorecard combined Quality Management (QMS) | Company Organizational-Management |
| Balanced Scorecard Perspective on Change And Performance: A Study of Selected Indian Companies | Farooq and Hussain (2011) [4] | Balanced Scorecard combined Statistics (Independent Sample t-test) | Manufacturing and Service industry |

As shown in Table 1, thus it can be outlined for in-depth analyses as discussed as follows:

**Hussain et. Al (2017)** [8] proposed a BSC to develop an interactive system to improve the strategic planning process and quality of flight operations using a BSC. They formulated the system integrated with BSC and evaluated for its effectiveness and usability in aviation operations. The developed system focused on ethnographic interviews, user observations, scenarios, subject matter interviews (SME), drawings, prototypes, and sketching. This study claimed that BSC combined SQL Server, JavaScript library using the JQuery that supports Ajax (JavaScript & XML), and Model View Controller (MVC) could manipulation and visualization features of data for performance measurements.

**Lesáková and Dubcová (2016)** [9] in their article “Knowledge and Use of the Balanced Scorecard Method in the Businesses in the Slovak Republic”, adopted BSC to detect the current state of knowledge in business in the Slovak Republic using BSC. To apply BSC, they have formulated six hypotheses and verified using the Spearman coefficient, Exact Binomial test, and Chi-square test to evaluate the significance of the difference. The sample was concentrated in Businesses located in the region of Bratislava, Slovak. This study reported that BSC improved performance measurement of business process, supporting strategic objectives, and introduction of periodic evaluation of strategic objectives.

**Anicic et.al (2016)** [7] presented a BSC combined ROE (Return on Equity), ROCE (Return on Capital Employed) and DuPont method to solve performance measurement from the point of view of financial and marketing perspective. They believed that these combination approaches enabling connection and dynamics of formulation and strategy implementation phases. This study suggested company management, particularly in the finance industry to apply BSC combined ROE (Return on Equity), ROCE (Return on Capital Employed) and DuPont to measures and monitors human, information and organizational company capital, with the aim of evaluating to what extent mentioned elements of intangible assets contribute to the strategy realization.

**Galankashi et. al (2016)** [10] have recommended BSC combined Fuzzy AHP select and to evaluate the performance of different suppliers of automobile industries. Fuzzy AHP alone was used to select the best supplier. This study had formulated a new BSC Framework. They corporated Fuzzy AHP to provided the fuzzy comparison matrices of the criterion level for supplier selection. Financial, customer, internal business and learning and growth are taking into consideration as variables to support the measurement of automobile supplier selection. Nominal Group Technique (NGT) was used to measure the performance.

**Hamid et.al (2016)** [11] have applied BSC combined Balanced Scorecard combined Key Performance Indicators (KPIs) and Total Quality Management (TQM) on identifying the factors for achieving and controlling the excellent performance among local authorities in Sarawak district, Malaysia. Besides, the proposed approach also suggested for assessing the identification that effectively improves the performance. The combination approach was then analyzed reliability and validity using SPSS. Then
constructed the performance measurement used these combined approaches capturing the authentic determinants of performance for the LA in Sarawak.

Osati and Omidvari (2016) [11] studied performance measurement problem in the electrical industry. Balanced Scorecard combined Promethee method was constructed to measure the performance of six major electricity contractors in Tehran by ranking different contractors. They recommended this approach to rank six contractors. Financial, customers, internal processes, learning, and growth are taken into consideration as four perspectives of BSC’s variables using a Likert scale. The implemented study showed implemented grey numbers to handle any uncertainty associated with numbers.

Afonso and Cabrita (2015) [12] have considered Balanced Scorecard as an approach to evaluate Lean Supply Chain (LSC) and Supply Chain Management (SCM) on providing an indication of how LSC performance can be assessed and improved organization of Small and Medium-Sized Enterprises from BSC perspective. The first BSC was implemented to translate the four perspectives that reflect the goals to be achieved, such as financial, customer, processes and learning and growth. Then, AHP was used to determine four main dimensions, such as cost, time, quality and flexibility and goal. This study claimed that the combination approach could provide a set of metrics that can help organization managers choose the most suitable size of performance to fulfill their goals.

Senarat and Patabendige (2015) [13] in their article “Balanced Scorecard: Translating Corporate Plan into Action. A Case Study on the University of Kelaniya, Sri Lanka”, believed that BSC approach could contribute to the improved strategic management of corporate planning as well as used as a diagnostic model to examine even the efficiency of the company planning process in other universities, in Sri Lanka. They argued that the BSC model suited for universities with a view to developing a suitable conceptual framework. Sri Lanka Higher Education Corporate Plan 2012-2015 were used as data to support BSC model. The perspective of stakeholders, internal process, innovation and learning, and resources management were identified objectives of this study.

Shafiee et al. (2014) [15] have focused on the evaluation of supply chain (SC) performance of food industry in Iran over BSC, particularly focused on measure and evaluate the relationships of financial, customer, internal business process, and learning and growth from the perspective of BSC. BSC was used to measure the causal relationships, then Dematel was applied to determine these relationships. Next DEA method was formulated to determine the efficiency of the supply chain. It was then ranked with DEA network using the BSC approach. The researchers argued that their model framework could evaluate the overall performance of the Supply chain by means of the BSC and DEA model.

Danaei et al. (2014) [16] formulated Balanced Scorecard combined KANO method, and Statistics to measure the performance of an administrative unit in Iran. They focused on internal processes, learning and growth, customer and financial figures that were determined by using these approaches. The proposed model had performed using survey questionnaire, and Likert scale. The findings showed that information technology in general service offices play an essential role in the success of the organizations.

Kartalis et al. (2013) [17] pointed out that Balanced Scorecard combined SWOT-AHP-Adaption of Pairs and Calculation of Averages could solve the performance measurement the tourism company by analyzed the advantages and disadvantages of the effects of implemented strategies and provide
feedback on the performance of strategic initiatives. First, the SWOT method was applied to collect and record the strengths, weaknesses, opportunities, and threats of the company. Then, AHP was adopted to select which of the most important in relation to the other of these four aspects. They reported that BSC combined AHP could be applied and implemented to measure the performance of the tourism industry, by considering the four perspectives into strategic initiatives.

Liu and Chen (2013) [18] have investigated the BSC approach to assess the strategy and usefulness in independent buffet-service restaurants in Taiwan as well as the performance measurement system. Statistics was formulated to set up the instrument of the study, including the sampling and data collection. Three independent buffet-service restaurants in Taiwan as the samples of this research. Vision and strategies, performance measures of financial perspective, customer perspective, internal business processes perspective, internal business processes perspective, and organizational learning and growth perspective were taking into consideration were identified and considered as specific factors to assess by BSC approach.

Danaei and Hosseini (2013) [19] investigated and analyzed the existing strategic objectives in the strategy map of a pipe company located in the city of Shiraz, Iran using the BSC approach. The authors explained that. This research similar to Liu and Chen (2013), in which BSC was used to measure four perspectives associated with BSC framework including financials, learning, and growth, internal process and customers. This study was also claimed that customers play an important role in business development and we have detected five important factors affecting customers.

Ryan et. al (2013) [20] studied how dynamic technological activities of analysis, evaluation, and synthesis applied to internal and external organizational data can highlight complex relationships in integrated hospital processes to target opportunities for improvement and ultimately Results in improved process capabilities. Balanced Scorecard combined Clinical Scheduling Information System (CSIS) was used to examines business process management practices and dashboard applications to monitor, measure, and improve a hospital’s perioperative process at strategic, tactical, and day-to-day operations levels. This study argued that the BSC framework model that was developed in hospital management could contribute to health IT literature by examining how continuous improvement processes, BSC, performance dashboards, and process management apply to the hospital environment.

Zhonghua and Ye (2012) [21] presented the combined of BSC, Benchmarking, AHP, and Data Envelopment Analysis (DEA) to explore the inspiring measurement of Chinese public sector performance, which is based on the previous review of literary works including influential factors, methods, and indicators of public sector performance evaluation. Impact factors, methods, and indicators of performance measurement were identified as the impact factors (internal dan external) of domestic public sector performance appraisal.

Živojinović and Stanimirović (2012) [6] studied the support of quality management system and BSC in the integration of normative, strategic and operational management. They argued that the applied BSC combined Quality Management System (QMS) will provide greater compatibility and coherence of normative, strategic and operational management, which will lead to a more successful business, business development and satisfaction of all stakeholders as well as leads to connecting and aligning all levels of management and decision making in the organization.

Farooq and Hussain (2011) [4] studied the effects of BSC and the change on organizational performance as well as discover the relation between BSC and change management by illustrating the function of BSC in the effective management of change and resulting in effective performance. The hypotheses were formulated to examine the implications in managerial practice. General, technological, social, leadership and structural change were identified as latent independent variables that leading to organizational performance. Statistics (Independent Sample t-test) then was used to testing the reliability and validity of the instrument with the help of factor analysis, and Cronbach alpha. This study reported that Indian organizations have incorporated the dimensions of BSC as a performance measurement tool, and to make changes and improve performance.
5. Conclusion.
This paper is based on a literature survey on the implementation of Balanced Scorecard and the application from 2008 to 2017. First, it was found that Balanced Scorecard (BSC) is a methodology used to manage and monitor an organization's strategy. Second, The BSC method is based on the precise Balanced and alignment between the elements of the global strategy and the operational elements. Global elements are the mission, vision, core values, perspective, and purpose. On the other hand, the operational elements are main indicators or KPIs and strategic initiatives. Third, BSC has several perspectives where corporate activity can be evaluated (1) financial perspectives, (2) customer perspectives, (3) internal process perspectives, and (4) learning and innovation perspectives.

It is important to add that although the Balanced Scorecard provides a basis for organizational management and can lead to successful organizational strategies, it is not enough in itself, as it requires the support of various other methods within the Implementation. Through the review that was conducted in this study, A number of BSC extensions or integrations have been developed to make BSC more representative and workable to clarify and renew budgets, identify and align strategic initiatives, and perform periodic performance reviews to improve strategy. This can definitely assist researchers and decision-makers to apply Balanced Scorecard in combination with other methods effectively.

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