



What Do We Know About Balanced Scorecard and Its Benefit? A Systematic Literature Review

Blasius Erik Sibarani*

Master of Science in Accounting, Faculty of Economics and Business, University of Gadjah Mada, Yogyakarta, Indonesia

*Corresponding author: blasiuseriksibarani@mail.ugm.ac.id

<https://dx.doi.org/10.24815/jdab.v10i1.29351>

ARTICLE INFO

Article history:

Received date: 02 December 2022

Received in revised form: 01 February 2023

Accepted: 17 February 2023

Available online: 14 April 2023

Keywords:

Balanced scorecard, BSC benefit, systematic literature review, performance

Citation:

Sibarani, B.E., (2023), What Do We Know About Balanced Scorecard and Its Benefit? A Systematic Literature Review. *Jurnal Dinamika Akuntansi dan Bisnis*, 10 (1), 133 – 148

Kata Kunci:

Balanced scorecard, kinerja, manfaat BSC, tinjauan literatur sistematis

ABSTRACT

This study aims to systematize articles on Balanced Scorecard (BSC) and the benefit of its adoption in various organizations and business entities. Using a systematic literature review, this study reviews 60 articles published in international reputable journals between 2003 and 2022. The articles were found using keywords such as 'balanced scorecard', 'BSC', and 'BSC implementation' in the Emerald, Elsevier, Sage Journals, and Scopus databases. The search was restricted by the language and scope of the research. The results show that BSC facilitates the improvement of organization performance, the achievement of organizational goals and vision, the outlining of strategies into action, the measurement of performance, the management of risk and the decision-making process.

Apa yang Kita Ketahui tentang Balanced Scorecard (BSC) dan Manfaatnya? Sebuah Studi Literatur Sistematis

ABSTRAK

Penelitian ini bertujuan untuk mensistematisasikan artikel penelitian terkait Balanced Scorecard (BSC) dan juga dampak implementasinya di berbagai organisasi dan entitas bisnis. Penelitian ini dilakukan melalui kajian literatur sistematis yang mencakup 60 artikel yang diterbitkan di jurnal bereputasi antara tahun 2003 dan 2022. Untuk mendapatkan artikel tersebut, penggunaan fitur pencarian atas kata-kata kunci dilakukan, misalnya 'balanced scorecard', 'BSC', dan 'BSC implementation' di database Emerald, Elsevier, Sage Journals, dan Scopus. Pencarian dibatasi oleh bahasa dan ruang lingkup penelitian. Hasil penelitian ini menemukan bahwa BSC membantu organisasi untuk meningkatkan kinerja, mencapai tujuan dan visi organisasi, menguraikan strategi menjadi tindakan, mengukur keberhasilan kinerja, mengelola risiko, dan membantu pengambilan keputusan.

1. Introduction

Balanced scorecard as one of the approaches used by an organization. The emergence of the balanced scorecard, which was started in 1992 by Kaplan & Norton, has an impact on organizations, where BSC is generally used by organizations to measure performance, formulate strategies, and achieve their goals. Many researchers have examined the ability of balanced scorecards to influence an organization (Sordo et al., 2012; Matherly & El-Saidi, 2010; Camilleri, 2020; Mendes et al., 2012; Bobe et al., 2017). Their study concluded that the balanced scorecard has an impact on achieving targets and organizational performance.

Nevertheless, the balanced scorecard has drawn many criticisms, Norreklit (2000) claiming that the Balanced Scorecard makes invalid assumptions that lead to a gap between the planned and executed strategy. Awadallah & Allam (2015) claim that most organizations that apply BSC either fail or face severe consequences. There is limited evidence on successful implementation of BSC in different types of organizations (Kumar et al., 2022). This study differs in several ways from the other BSC literature reviews (Hoque, 2014; Lueg & Vu, 2015; Perkins et al., 2014). First, we provide the most current and comprehensive systematic review of BSC's evolution between 2003 and 2022, so that readers can see the integrated picture of BSC. Second, we examine BSC articles from accounting and from

various relevant journals. Third, we classify the BSC literature into the research methods used, data analysis techniques, the year and country of publication, and impact of BSC implementation. Finally, we identify research gaps in the available literature and suggest potential research issues.

Thus, the purpose of this study is to review the articles in the balanced scorecard literature to understand the existing research on the balanced scorecard and its implementation in various sectors, and also the extent to which existing research has developed and what opportunities exist for future research to develop and evaluating the adoption of the balanced scorecard to be applied in various sectors according to the needs of the implementing sector. In this systematic literature review, there are research questions reviewed, namely, 1) related to the balanced scorecard, 2) related to the implementation of the balanced scorecard in various sectors, 3) related to the impact of the implementation of the balanced scorecard in various sectors.

This research will make several contributions. First, this study will provide an overview of the impact of the balanced scorecard in various sectors. Second, this research will provide input for various sectors regarding the impact of the balanced scorecard. Third, this research will add to the theory related to the impact of the implementation of the balanced scorecard in various sectors. Fourth, this research will make it easier for organizations to see the impact of implementing a balanced scorecard for their organizations.

This article is structured as follows: the next section discusses the methods used in systematic literature review. Then the next section presents the distribution of article frequencies by journal category, subject, research theory, research environment (country and industry), research methods, and key data analysis techniques. The last part is the conclusions, limitations, and practical implications of the study.

2. Literature review

This section presents the definition of the balanced scorecard, according to the times, whether the definition of the balanced scorecard has evolved as well or not. In the definition of balanced scorecard, the we use Kaplan & Norton's theory as a basis for seeing the development of the Balanced Scorecard definition. Kaplan dan Norton (1992, 1996, 2001, 2008) as the originator of balanced

scorecard provides the definition of balanced scorecard is the measurement of performance and strategic management into concrete actions to achieve the goals of the organization. Then the definition of balanced scorecard (after 2008) is a comprehensive performance measurement and as a strategic management system (Rompho, 2020; Singh & Arora, 2018; Quezada *et al.*, 2019) involving each phase of strategy implementation including budget and control (Oyaneder & Valderrama, 2016) and the balance between financial and non-financial measures (Quesado *et al.*, 2022; Hristov, *et al.*, 2019; Martunis *et al.*, 2020; Alsharari *et al.*, 2019). In addition, there are other opinions regarding the definition of a balanced scorecard, which is a model that accommodates outlining strategies into operational objectives that direct attitudes and performance, allows identification of good management implementation and guides organizational change management in the process of refining (Gomes *et al.*, 2021; Lin & Cheng, 2021; Fuchs, 2020; Kamhawi, 2011). From the development of the definition of balanced scorecard, we see that basically the balanced scorecard definition does not have a significant difference, but rather has the same meaning that is reviewed using different sentences. We conclude that the balanced scorecard is a system or method of measuring performance in an organization and as a model in formulating strategies and evaluations for the achievement of goals that have been determined by the organization.

3. Research method

This section discusses the process of the research and the strategies used to answer research questions. To develop sample of BSC articles, we searched online sources such as Emerald, Elsevier, Sage Journals, and Scopus for articles published between 2003 and 2022. We used keywords such as balanced scorecard, BSC, and implementation of BSC in organization. The search was restricted by the language and scope of the research. The research process consists of several steps, namely, 1) determining the research topic (i.e. related to the balanced scorecard and the impact of its implementation in various sectors), 2) determining the objectives and research questions, 3) collecting reference articles related to the topic discussed, 4) make a selection of articles that will be used as

research references according to the research topic, 5) carry out the literature analysis process of the articles collected, 6) presentation of the results of

literature analysis, 7) make conclusions and limitations of the review. Following is a flow chart from the stages of the research process:

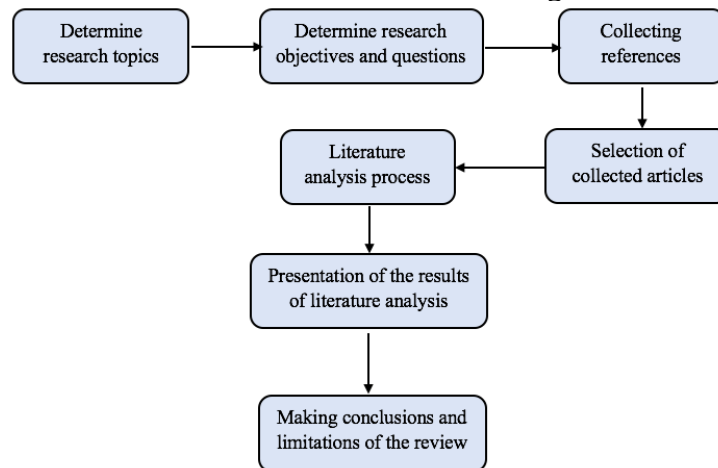


Diagram 1. Research process

The stage of the method used in this study depends on Tranfield et al. (2003) and Sivarajah et al. (2017). The first stage involves the program review process, which includes the definition of the study objectives and the development of a review protocol. The second stage is to carry out the review process, that is, to identify, select, evaluate and synthesize relevant studies. The third stage of reporting and dissemination of research results as a whole.

4. Results and discussion

4.1. Frequency distribution of articles by year and publication quality

Table 1 shows the distribution of the frequency of articles in the BSC literature in this study, by year of publication and quality. The number of articles prior to 2010, with 2003 as the first year of articles, amounted to 10 of the total number of articles or 16.6%. The study of the balanced scorecard increased in the following year, it was seen that there

were 13 articles in 2010-2013 accounting for 21.7%, 13 articles in 2014-2017 accounting for 21.7%, and in 2018-2022 as many as 24 articles or 40% of the total number of articles. However, since the article search was conducted in November 2022, readers should be careful in interpreting the frequency of articles in 2022. It could be that the number of articles published in 2022 actually exceeds the number identified in this study.

Of all the articles reviewed, high-quality journals were indexed by Scopus. The Scopus database has been identified as a reliable source of research lists on topics of interest. Scopus is widely used and provides higher coverage of literature (Aksnes & Sivertsen, 2019). The articles indexed by Scopus as Q1 by ScimagoJR (SJR) accounted for 28.3% of all articles reviewed. Then 60% of articles are in medium-quality journals, indexed as Q2 and Q3, and 11.7% of articles are not indexed by Scopus. In addition to Scimago's journal rankings, table 1 also includes frequency distribution by impact factor (IF).

Table 1. Frequency distribution of articles by year and publication quality

Publication quality	Year				Total	Total (%)
	< 2010	2010-2013	2014-2017	2018-2022		
ScimagoJR						
Q1	7	3	1	6	17	28,3
Q2	2	5	10	11	28	46,7
Q3	1	2	0	5	8	13,3
Q4	0	0	0	0	0	0
Non-Scopus	0	3	2	2	7	11,7
Impact Factor						
≥ 3	7	6	6	7	26	43,4

$3 > x \geq 2$	1	2	2	9	14	23,3
$2 > x \geq 1$	2	2	2	5	11	18,3
<1	0	1	1	1	3	5,0
Not Covered	0	2	2	2	6	10,0

^a This study used an impact factor score from resurchify (<https://www.resurchify.com>). This is because our school does not have access to Clarivate Analytics.

4.2. Frequency distribution of articles by journal

Table 2 below shows the distribution of articles by journal.

Table 2. Frequency distribution of articles by journal

Journal	Year				Total
	<2010	2010-2013	2014-2017	2018-2022	
Sustainability	0	0	2	0	2
International Journal of Operations & Production Management	2	0	0	0	2
Measuring Business Excellence	0	0	0	2	2
Total Quality Management	2	1	0	0	3
Advances in Management Accounting	0	0	1	0	1
Management Accounting Research	1	0	0	0	1
Accounting, Auditing & Accountability Journal	0	0	1	0	1
Australian Accounting Review	0	0	0	1	1
Others	5	12	9	21	47
Total	10	13	13	24	60
Total (%)	16,6	21,7	21,7	40,0	100

From the table above, we can see that the journal total quality management is the most with 3 articles, followed by the journal Sustainability, International Journal of Operations & Production Management, and Measuring Business Excellence with 2 articles each. Here the we do not specify a specific journal for reference search. This is because the we realize that topics related to balanced scorecards can be used by various sectors and not only companies. Therefore, the frequency of distribution of articles per journal seems to be small.

4.3. Frequency distribution of articles by research topics

The frequency distribution of balanced scorecard topics for all 60 articles reviewed in this study is shown at table 3. Forty articles (66.7%) focused on researching the impact of balanced scorecards on organizational performance. Then followed by 12 articles (20%) focusing on researching the impact of balanced scorecards in organizational management.

Table 3. Frequency distribution of articles by research topics

Topic	Year				Total	Total (%)
	<2010	2010-2013	2014-2017	2018-2022		
Management	3	2	2	5	12	20,0
Performance	7	8	9	16	40	66,7
Key performance areas	0	1	0	0	1	1,7

Organizational effectiveness	0	0	0	1	1	1,7
Supply chain and performance	0	0	1	0	1	1,7
Others	0	2	2	1	5	8,2
Total	10	13	14	23	60	100

However, research on the balanced scorecard still provides a great opportunity to be explored both in the same fields that have been studied and new areas of research that have not yet been explored. Thus, future studies may explore further areas of research that have been initiated by previous research in different contexts. Further research can be done to address research problems or gaps by adding more explanatory variables, using other theories, or applying different settings.

4.4. Frequency distribution of articles by research setting

Table 4 presents data on the country where the research is located in the research article. The most popular country in the balanced scorecard study was Portugal which accounted for 6.7%, followed by Taiwan which accounted for 5%. However, we realize that there may still be many articles related to the balanced scorecard that has not been used as references in this article which causes a small percentage of a country.

Table 4. Frequency distribution of articles by country setting

Country setting	Year				Total	Total (%)
	<2010	2010-2013	2014-2017	2018-2022		
United Kingdom	1	0	0	1	2	3,3
United States	0	1	0	1	2	3,3
Portugal	0	1	0	3	4	6,7
Australia	1	0	0	1	2	3,3
Italy	1	1	0	0	2	3,3
Taiwan	1	1	0	1	3	5,0
Singapore	0	0	1	1	2	3,3
Canada	1	0	1	0	2	3,3
Not Stated	0	4	3	1	8	13,3
Others	5	5	8	15	33	55,0
Total	10	13	13	24	60	100

Table 5 below shows the frequency distribution of articles reviewed in this study by industry (sector) background. The most studied sector is the higher educational institution sector which contributes 20% (12 articles), followed by the public health sector

which contributes 18.3% (11 articles), followed by the manufacturing sector which contributes 10% (6 articles), and followed by the public sector industry which contributes 8.4% (5 articles).

Table 5. Frequency distribution of articles by sector setting

Industry setting	Year				Total	Total (%)
	<2010	2010-2013	2014-2017	2018-2022		
Banking	2	0	0	3	5	8,3
Manufacturing	1	0	3	2	6	10,0
Retail	0	1	1	0	2	3,3
SMEs	1	1	1	0	3	5,0
Pharmaceutical	0	0	1	2	3	5,0
Public health	1	3	3	4	11	18,3
Public sector	2	1	2	0	5	8,4

Higher educational institution	1	5	0	6	12	20
Other	2	2	2	7	13	21,7
Total	10	13	13	24	60	100

4.5. Frequency distribution of articles by research methods

Table 6 presents data on research methods used in research articles. The most widely used research method is case/field study with a percentage of 31.7% of a total of 60 articles. Followed by the

survey method of as many as 16 articles (26.6%). Interview method with a percentage of 21.7% (13 articles), literature method with a percentage of 10% (6 articles), and experiment method with a percentage of 3.3% (2 articles). Furthermore, a number of 6.7% of articles (4 articles) do not mention the research method used.

Table 6. Frequency distribution of articles by research methods

Research Methods	Year				Total	Total (%)
	<2010	2010-2013	2014-2017	2018-2022		
Survey	3	0	4	9	16	26,6
Interview	2	4	2	5	13	21,7
Case/field study	4	3	4	8	19	31,7
Literature	0	3	2	1	6	10,0
Experiment	0	1	0	1	2	3,3
Not stated	1	2	0	1	4	6,7
Total	10	13	12	25	60	100

Frequency distribution of articles by primary data analysis techniques

The data in Table 7 shows that quantitative data analysis techniques are widely used in the articles reviewed. A large number of studies used regression/Anova/Manova as the primary data analysis technique (11.6%), followed by PLS/SEM/Path analysis data analysis (6.6%). furthermore, descriptive analysis (8.3%), analytical hierarchy process (5.0%), there are studies that use

more than one data analysis and here the we categorize them into other categories (23.2%). Twenty-one articles (35.0%) make no mention of key data analysis techniques. A possible explanation is that research on this topic often examines the impact of applying a balanced scorecard and therefore relies on techniques, such as regression/Anova/Manova analysis or PLS/SEM/Path analysis, which are considered best suited for this purpose.

Table 7. Frequency distribution of articles by primary data analysis techniques

Primary data analysis techniques	Year				Total	Total (%)
	<2010	2010-2013	2014-2017	2018-2022		
Regression/Anova/Manova	1	0	2	4	7	11,6
Correlation	0	0	0	2	2	3,2
Comparative analysis	0	0	0	1	1	1,6
PLS/SEM/Path analysis	0	1	0	3	4	6,6
Rasch statistical	0	0	0	1	1	1,6
Triangulation analysis	0	0	1	0	1	1,6
Nvivo analysis	0	0	0	2	2	3,2
Analytic hierarchy process	0	1	2	0	3	5,0
Descriptive analysis	0	2	0	3	5	8,3
Others*	3	4	3	4	14	23,2
Not stated	6	6	6	3	21	35,0
Total	10	14	13	23	60	100

4.6. Progress of previous studies or theory balanced scorecard (Kaplan & Norton, 1992)

This section presents research or theory progress related to the topic of balanced scorecards with theories from Kaplan & Norton (1992) as basic guidelines for viewing their progress or development. From the results of the review, we concluded that there is no essential difference from previous studies until now. Related to the notion of a balanced scorecard, there is no difference from the theory presented by Kaplan & Norton (1992) as the beginning of the emergence of the balanced scorecard theory. Then for the perspective in the balanced scorecard, there is also no change or modification from the researchers. The balanced scorecard perspective still remains four perspectives (finance, internal processes, learning and growth, and customers). Furthermore, in the article for the 2003-2022 period, the implementation of the dominant balanced scorecard has an impact, namely improving organizational performance, achieving targets, outlining strategies, achieving organizational goals, and making decisions for the organization. For the sector studied, there is an expansion from 2003-2022, where we review that there have been 18 sectors studied (see table 8), it is not impossible that there are other sectors studied outside of the 18 sectors that we reviewed.

4.7. Implementation of balanced scorecard

The balanced scorecard has an important impact on an organization so that a balanced scorecard is widely implemented. The balanced scorecard is used as a system to reduce the uncertainty of goals in organizations (Aidemark, 2001) and support the

implementation of strategies (Atkinson, 2006). Given the growing need to measure performance and outline an organization's strategy, there is a need to rethink and reformulate frameworks for measuring excellence. BSC can be used as a tool to connect an organization's vision, mission, strategy, and operational activities, and to plan goals and objectives, as well as performance (Oliveira et al., 2021). The BSC approach allows organizational managers to edit into different forms as well as add new perspectives on organizational interests (Figge et al., 2002; Falle et al., 2016).

4.8. Impact of Balanced Scorecard implementation in various sectors

Here we will outline the impact of implementing a balanced scorecard in various sectors by presenting it in a table to make it easier in the process of understanding it. From table 8 related to the impact of the implementation of the balanced scorecard in various sectors. The balanced scorecard has a positive impact on the public sector. The impact of the balanced scorecard in the public sector is the impact on the organization's business plan and the achievement of excellence in the delivery of community services, improving performance, and improving strategic harmony through integrated planning. (Greatbanks & Tapp, 2007; Carmona and Grönlund, 2003; Monteiro & Ribeiro, 2017; Mendes et al., 2012; Bobe et al., 2017). Then the balanced scorecard has no impact on the public company sector, where there is no significant difference in satisfaction and perceived benefits using various types of BSC (Yongvanich & Guthrie, 2009). However, study on BSC in public companies is still very limited.

Table 8. Impact of Balanced Scorecard implementation in various sectors

Sectors that implement BSC	Have an impact?	Impact	Authors
Public sector	√	(+) Impact on the organization's business plan and achieving excellence in community service delivery, improving performance, and improving strategic harmony through integrated planning.	Greatbanks & Tapp, 2007; Carmona & Grönlund, 2003; Monteiro & Ribeiro, 2017; Mendes et al., 2012; Bobe et al., 2017
Public companies	×	(-) There is no significant difference in satisfaction and perceived benefits of using different types of BSC.	Yongvanich & Guthrie, 2009

Higher educational institutions	√	(+) Can monitor organizational performance and strategies that have been set in the medium and long term, formulate actions to translate missions and improve performance.	Oliveira et al., 2021; Fuchs et al., 2020; Sordo et al., 2012; Peris-Ortiz et al., 2019; Umashankar & Dutta, 2007; Zangoueinezhad & Moshabaki, 2011; Yüksel & Coşkun, 2013; Matherly & El-Saidi, 2010; Camilleri, 2020; Wu et al., 2011; Fijałkowska & Oliveira, 2018; Alani et al., 2018
Hospitality	√	(+) Hotel performance is affected by BSC adoption, including financial, customer, and internal business processes, as well as innovation and learning.	Arasli, 2019
Public health	√	(+) Effectiveness provides decision-makers with the information they need to accurately monitor key issues related to organizational objectives, progress and quality at the executive and project levels, and program performance.	Weir et al., 2009; Martunis et al., 2020; Khalid et al., 2022; Chan & Seaman, 2008; Emami & Doolen, 2015; Govindan et al., 2022; Gonzalez-Sanchez et al., 2017; Kollberg & Elg, 2011; Koumpouros, 2013; Oliveira et al., 2020; Lovaglio & Vittadini, 2012
Manufacturing	√	(+) BSC improves the product lifecycle stage, external environment, improves company performance, and improves organizational effectiveness, and can communicate organizational strategy and strategic control tools to achieve the company's strategic goals.	Oyaneder & Valderrama, 2016; Bianchi & Montemaggiore, 2008; Balakannan et al., 2016; Liu et al., 2014; Oyewo et al., 2021; Quesado et al., 2022
Pharmaceutical	√	(+) Helping pharmaceutical companies to improve the company's performance in the quality management system, improve financial performance, improve patient satisfaction, and reduce unnecessary and wasteful expenses.	Elkanayati & Shamah, 2019; Enwere et al., 2014; Alipour et al., 2022
Public hospitals	√	(+) Management innovation through BSC can create more balance in each professional group which in turn can help achieve the expected results.	Gao & Gurd, 2020; Pham et al., 2020; Chang et al., 2008
Food industry	√	(+) The integration of the company through BSC supports the improvement of environmental performance and strengthens the company's financially oriented culture.	Länsiluoto & Järvenpää, 2012
Banks	√	(+) Increasing the unit in the internal business process perspective, learning and growth perspective and customer perspective will improve the bank's performance.	Abueid et al., 2022; Khatib, 2020; Chiang & Lin, 2009; Abueid, 2022; Davis & Albright, 2004
Sport	√	(+) BSC help organization to keep spending within budget constraints, increases revenues	Dimitropoulos, 2017

while achieving high levels of citizen satisfaction through sports services, and improves internal operations.

Maritime	√	(+) BSC has a positive impact on participating students, demonstrating an improvement in their overall knowledge and understanding of functional areas and relationships within emergency response teams.	Lin & Cheng, 2021
Public school	√	(+) The balanced scorecard helps school management translate their strategies into action.	Rompho, 2020
Government	√	(+) The Balanced Scorecard can monitor and measure performance and can evaluate the success of investments, and achieve organizational goals.	Zawawi & Hoque, 2019
Retail	√	(+) Help as a performance indicator to measure success.	Sewell et al., 2017; Kasiri et al., 2012
Private companies	√	(+) The Balanced Scorecard helps manage the risks associated with information asymmetry and loss of transparency due to a more comprehensive view of the operations and performance of overseas locations.	Sharma & Sharma, 2021
Software companies	√	(+) BSC can effectively improve goal achievement, decision-making, and strategic performance.	Chi & Hung, 2011; Pérez et al., 2017
SMEs	√	(+) Assist in deciphering strategies into action and achieving their vision	Garengo & Biazzo, 2012; Falle, 2016; Fernandes et al., 2006

Furthermore, the balanced scorecard has an impact on the higher educational institutions sector, namely being able to monitor organizational performance and strategies set in the medium and long term, formulate actions to translate missions and improve performance (Oliveira et al., 2021; Fuchs et al., 2020; Sordo et al., 2012; Peris-Ortiz et al., 2019; Umashankar & Dutta, 2007; Zangouinezhad & Moshabaki, 2011; Yüksel & Coşkun, 2013; Matherly & El-Saidi, 2010; Camilleri, 2020; Wu et al., 2011; Fijałkowska & Oliveira, 2018; Alani et al., 2018). The balanced scorecard also has an impact on the hospitality sector, namely hotel performance is influenced by the adoption of BSC, including financial, customer and internal business processes, as well as innovation and learning (Arasli, 2019). Then the impact of the balanced scorecard for the public health sector is that it effectively provides the information needed by decision makers to accurately monitor key issues related to organizational goals, progress and quality at the executive and project levels, as well as program performance (Weir et al.,

2009; Martunis et al., 2020; Khalid et al., 2022; Chan & Seaman, 2008; Emami & Doolen, 2015; Govindan et al., 2022; Gonzalez-Sanchez et al., 2017; Kollberg & Elg, 2011; Koumpouros, 2013; Oliveira et al., 2020; Lovaglio & Vittadini, 2012). The balanced scorecard also has an impact on the manufacturing sector, namely increasing the product lifecycle stage, external environment, improving company performance (Oyaneder & Valderrama, 2016; Bianchi & Montemaggiore, 2008; Balakannan et al., 2016; Liu et al., 2014), and increase organizational effectiveness (Oyewo et al., 2021), and communicate organizational strategy and strategic control tools to achieve the company's strategic objectives (Quesado et al., 2022).

Furthermore, the balanced scorecard has an impact on the pharmaceutical sector, namely helping pharmaceutical companies to improve company performance in quality management systems (Elkanayati & Shamah, 2019; Enwere et al., 2014), and improve financial performance, increase patient satisfaction, and reduce unnecessary and wasteful expenses (Alipour et al., 2022). Then the impact of

the balanced scorecard for the public hospitals sector is that management innovation through the BSC can create more balance in each professional group which in turn can help achieve the expected results (Gao & Gurd, 2020; Pham et al., 2020; Chang et al., 2008). The impact of the balanced scorecard on the food industry sector is company integration through the BSC which supports environmental performance improvement and strengthens the company's financial-oriented culture (Lämsiluoto & Järvenpää, 2012). The impact of the balanced scorecard on the banking sector, namely increasing units in the internal business process perspective, learning and growth perspective and customer perspective will improve bank performance (Abueid et al., 2022; Khatib, 2020; Chiang & Lin, 2009; Abueid, 2022; Davis & Albright, 2004). Then the impact of the balanced scorecard for the sports sector is to help keep spending within budget limits, increase income while achieving high levels of citizen satisfaction through sports services, and improve internal operations (Dimitropoulos, 2017).

Furthermore, the balanced scorecard has an impact on the maritime sector, namely the BSC has a positive impact on participating students, showing an increase in their overall knowledge and understanding of functional areas and relationships within the emergency response team (Lin & Cheng, 2021). The balanced scorecard has an impact on the public-school sector, namely the balanced scorecard helps school management translate their strategies into action (Rompho, 2020). The impact of the balanced scorecard on the government sector is that the balanced scorecard can monitor and measure performance, and can evaluate investment success and achieve organizational goals (Zawawi & Hoque, 2019). The impact of the balanced scorecard for the retail sector is to help as a performance indicator to measure success (Sewell et al., 2017; Kasiri et al., 2012). The balanced scorecard has an impact on the private sector of companies, namely the balanced scorecard helps manage risks associated with information asymmetry and loss of transparency due to a more comprehensive view of the operations and performance of overseas locations. (Sharma & Sharma, 2021). Then the balanced scorecard has an impact on the software company sector, namely the BSC can effectively improve goal achievement, decision-making, and strategic performance (Chi & Hung, 2011; Pérez et al., 2017). Furthermore, the last balanced scorecard has an impact on the SMEs sector, namely assisting in breaking down strategies

into action and achieving their vision (Garengo & Biazzo, 2012; Falle, 2016; Fernandes et al., 2006).

From the discussion of the results of the literature review of the 60 articles above, it can be seen that the dominant implementation of the balanced scorecard can provide impacts or benefits and bring change for various sectors/industries that implement it, for this reason it is important for an organization/industry to implement a balanced scorecard in supporting and encouraging the progress/development of the industry.

5. Conclusion

The purpose of this study is to see how the development of the theory of the balanced scorecard, the implementation of the balanced scorecard, and the impact provided by the balanced scorecard on the sectors that implement it. This literature review includes 60 articles relevant to the topic of discussion (balanced scorecard). It covers the article period from 2003 to 2022.

From the results of the review, it was found that there was no significant development in the balanced scorecard theory. Even though there are opinions from other authors regarding the balanced scorecard, the theory conveyed by them has the same meaning as that coined by its creators, namely Kaplan & Norton. Furthermore, for the implementation of the balanced scorecard, from the results of the review, we found that the balanced scorecard has an impact on the sectors that use it, namely improving performance, achieving organizational goals and vision, elaborating strategy into action, and assisting decision making (dominantly balanced scorecard has a positive impact and is also beneficial for companies that implement). Then, in the implementation of the balanced scorecard in an organization, there are no significant differences between the education sector, industry, and other sectors. The implementation of the balanced scorecard in various sectors uses the four perspectives of the balanced scorecard (financial, internal process, customer, and learning and growth).

In this review, of course, there are some limitations. First, we realize that there are not many articles to refer to (only 60 articles). Second, we realize that there are still many other sources of articles related to the balanced scorecard that has not been used as reference material. Third, we realize that the reviews have not been discussed in

detail. These limitations will provide suggestions for further research.

The practical implications of this paper are to emphasize important perspectives in using BSC so that it will help organizations to improve performance, achieve organizational goals and vision, outline strategies into action, measure performance success, manage risk, and assist decision-making. In addition, this paper demonstrates the potential benefits and introduces the impact of the balanced scorecard in various sectors.

References

- Abueid, R., Rehman, S. U., & Nguyen, N. T. (2022). The impact of balanced scorecard in estimating the performance of banks in Palestine. *EuroMed Journal of Business*, <https://doi.org/10.1108/EMJB-03-2021-0047>.
- Aidemark, L. G. (2001). The meaning of balanced scorecards in the health care organisation. *Financial accountability & management*, 17(1), 23-40, <https://doi.org/10.1111/1468-0408.00119>.
- Aksnes, D. W., & Sivertsen, G. (2019). A criteria-based assessment of the coverage of Scopus and web of science. *Journal of Data and Information Science*, 4(1), 1-21, <https://doi.org/10.2478/jdis-2019-0001>.
- Alani, F. S., Khan, M. F. R., & Manuel, D. F. (2018). University performance evaluation and strategic mapping using balanced scorecard (BSC): Case study-Sohar University, Oman. *International Journal of Educational Management*, 32(4), 689-700, <https://doi.org/10.1108/IJEM-05-2017-0107>.
- Alhyari, S., Alazab, M., Venkatraman, S., Alazab, M., & Alazab, A. (2013). Performance evaluation of e-government services using balanced scorecard: An empirical study in Jordan. *Benchmarking: an International Journal*, 20(4), 512-536, <https://doi.org/10.1108/BIJ-08-2011-0063>.
- Alipour, F., Jamshidizadeh, S., Bastani, P., & Mehralian, G. (2022). The balanced scorecard as a strategic management tool in hospital pharmacies: an experimental study. *Journal of Health Organization and Management*, 36(6), 767-780, <https://doi.org/10.1108/JHOM-07-2021-0256>.
- Alsharari, N. M., Eid, R., & Assiri, A. (2019). Institutional contradiction and BSC implementation: comparative organizational analysis. *International Journal of Organizational Analysis*, 27(3), 414-440, <https://doi.org/10.1108/IJOA-08-2017-1219>.
- Arasli, H., Alphun, C., & Arici, H. E. (2019). Can balanced scorecard adoption mediate the impacts of environmental uncertainty on hotel performance? The moderating role of organizational decision-making structure. *Journal of Hospitality Marketing & Management*, 28(8), 981-1009, <https://doi.org/10.1080/19368623.2019.1578716>.
- Atkinson, H. (2006). Strategy implementation: a role for the balanced scorecard?. *Management decision*, 44(10), 1441-1460, <https://doi.org/10.1108/00251740610715740>.
- Awadallah, E. A., & Allam, A. (2015). A critique of the balanced scorecard as a performance measurement tool. *International Journal of Business and Social Science*, 6(7), 91-99.
- Balakannan, K., Nallusamy, S., Chakraborty, P. S., & Majumdar, G. (2016). Performance evaluation of supply chain and logistics management system using balanced score card for efficiency enhancement in Indian automotive industries. *Indian Journal of Science and Technology*, 9(35), 1-9, <https://doi.org/10.17485/ijst/2016/v9i35/100836>.
- Bianchi, C., & Montemaggiore, G. B. (2008). Enhancing strategy design and planning in public utilities through “dynamic” balanced scorecards: insights from a project in a city water company. *System Dynamics Review: The Journal of the System Dynamics Society*, 24(2), 175-213, <https://doi.org/10.1002/sdr.395>.
- Bobe, B. J., Mihret, D. G., & Obo, D. D. (2017). Public-sector reforms and balanced scorecard adoption: an Ethiopian case study. *Accounting, Auditing & Accountability Journal*, 30(6), 1230-1256, <https://doi.org/10.1108/AAAJ-03-2016-2484>.
- Camilleri, M. A. (2020). Using the balanced scorecard as a performance management tool in higher education. *Management in Education*, 35(1), 10-21, <https://doi.org/10.1177/0892020620921412>.
- Carmona, S., & Grönlund, A. (2003). Measures vs actions: the balanced scorecard in Swedish Law Enforcement. *International Journal of Operations & Production Management*,

- 23(12), 1475-1496, <https://doi.org/10.1108/01443570310506722>.
- Chan, Y. C. L., & Seaman, A. (2008). Strategy, structure, performance management, and organizational outcome: Application of balanced scorecard in Canadian health care organizations. *Advances in management accounting*, 17, 151-180, [https://doi.org/10.1016/S1474-7871\(08\)17005-8](https://doi.org/10.1016/S1474-7871(08)17005-8).
- Chang, W. C., Tung, Y. C., Huang, C. H., & Yang, M. C. (2008). Performance improvement after implementing the Balanced Scorecard: A large hospital's experience in Taiwan. *Total Quality Management*, 19(11), 1143-1154, <https://doi.org/10.1080/14783360802323560>.
- Chiang, C. Y., & Lin, B. (2009). An integration of balanced scorecards and data envelopment analysis for firm's benchmarking management. *Total Quality Management*, 20(11), 1153-1172, <https://doi.org/10.1080/14783360903248286>.
- Chi, D. J., & Hung, H. F. (2011). Is the balanced scorecard really helpful for improving performance? Evidence from software companies in China and Taiwan. *African journal of business management*, 5(1), 224-239, <https://doi.org/10.5897/AJBM10.749>.
- Davis, S., & Albright, T. (2004). An investigation of the effect of balanced scorecard implementation on financial performance. *Management accounting research*, 15(2), 135-153, <https://doi.org/10.1016/j.mar.2003.11.001>.
- Dimitropoulos, P., Kosmas, I., & Douvis, I. (2017). Implementing the balanced scorecard in a local government sport organization: Evidence from Greece. *International Journal of Productivity and Performance Management*, 66(3), 362-379, <https://doi.org/10.1108/IJPPM-11-2015-0167>.
- Elkanayati, R. M., & Shamah, R. (2019). Could the balanced scorecard enhance pharmaceutical organisations' quality performance?. *Industrial and Commercial Training*, 51(4), 256-276, <https://doi.org/10.1108/ICT-07-2018-0060>.
- Emami, S., & Doolen, T. L. (2015). Healthcare Performance Measurement: Identification of Metrics for The Learning and Growth Balanced Scorecard Perspective. *International Journal of Industrial Engineering*, 22(4), 426-437.
- Enwere Jr, E. N., Keating, E. A., & Weber, R. J. (2014). Balanced scorecards as a tool for developing patient-centered pharmacy services. *Hospital pharmacy*, 49(6), 579-584, <https://doi.org/10.1310/hpj4906-579>.
- Falle, S., Rauter, R., Engert, S., & Baumgartner, R. J. (2016). Sustainability management with the sustainability balanced scorecard in SMEs: Findings from an Austrian case study. *Sustainability*, 8(6), 545, <https://doi.org/10.3390/su8060545>.
- Fernandes, K. J., Raja, V., & Whalley, A. (2006). Lessons from implementing the balanced scorecard in a small and medium size manufacturing organization. *Technovation*, 26(5-6), 623-634, <https://doi.org/10.1016/j.technovation.2005.03.006>.
- Figge, F., Hahn, T., Schaltegger, S., & Wagner, M. (2002). The sustainability balanced scorecard—linking sustainability management to business strategy. *Business strategy and the Environment*, 11(5), 269-284, <https://doi.org/10.1002/bse.339>.
- Fijałkowska, J., & Oliveira, C. (2018). Balanced scorecard in universities. *Journal of Intercultural Management*, 10(4), 57-83, <https://doi.org/10.2478/joim-2018-0025>.
- Fuchs, P., Raulino, C., Conceição, D., et al. (2020). Promoting sustainable development in higher education institutions: the use of the balanced scorecard as a strategic management system in support of green marketing. *International Journal of Sustainability in Higher Education*, 21(7), 1477-1505, <https://doi.org/10.1108/IJSHE-02-2020-0079>.
- Gao, T., & Gurd, B. (2020). Impact of a management innovation on professional subcultures—the case of a balanced scorecard implementation in a Chinese hospital. *Chinese Management Studies*, 14(4), 857-869, <https://doi.org/10.1108/CMS-11-2019-0408>.
- Garengo, P., & Biazzo, S. (2012). Unveiling strategy in SMEs through balanced scorecard implementation: A circular methodology. *Total Quality Management & Business Excellence*, 23(1), 79-102, <https://doi.org/10.1080/14783363.2011.637800>.
- Gomes, M. J., Sousa, A., Novas, J., & Jordão, R. V. D. (2021). Environmental sustainability in viticulture as a balanced scorecard perspective of the wine industry: Evidence for the

- Portuguese region of Alentejo. *Sustainability*, 13(18), 10144, <https://doi.org/10.3390/su131810144>.
- Gonzalez-Sanchez, M. B., Broccardo, L., & Martins Pires, A. M. (2017). The use and design of the BSC in the health care sector: A systematic literature review for Italy, Spain, and Portugal. *International journal of health planning and management*, 33(1), 1-25, <https://doi.org/10.1002/hpm.2415>.
- Govindan, K., Nasr, A. K., Heidary, M. S., Nosrati-Abarghoee, S., & Mina, H. (2022). Prioritizing adoption barriers of platforms based on blockchain technology from balanced scorecard perspectives in healthcare industry: A structural approach. *International Journal of Production Research*, 1-15, <https://doi.org/10.1080/00207543.2021.2013560>.
- Greatbanks, R., & Tapp, D. (2007). The impact of balanced scorecards in a public sector environment: Empirical evidence from Dunedin City Council, New Zealand. *International Journal of Operations & Production Management*, 27(8), 846-873, <https://doi.org/10.1108/01443570710763804>.
- Hoque, Z. (2014). 20 years of studies on the balanced scorecard: Trends, accomplishments, gaps and opportunities for future research. *British Accounting Review*, 46(1), 33-59, <https://doi.org/10.1016/j.bar.2013.10.003>.
- Hristov, I., Chirico, A., & Appolloni, A. (2019). Sustainability value creation, survival, and growth of the company: A critical perspective in the Sustainability Balanced Scorecard (SBSC). *Sustainability*, 11(7), 2119, <https://doi.org/10.3390/su11072119>.
- Kamhawi, E. M. (2011). IT & non-IT factors influencing the adoption of BSC systems: a Delphi study from Bahrain. *International Journal of Productivity and Performance Management*, 60(5), 474-492, <https://doi.org/10.1108/17410401111140392>.
- Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard – measures that drive performance. *Harvard Business Review*, <https://hbr.org/1992/01/the-balanced-scorecard-measures-that-drive-performance-2>.
- Kaplan, R. S., & Norton, D. P. (1996). Using the balanced scorecard as a strategic management system. *Harvard Business Review*, 74(1), 75-85, <https://www.hbs.edu/faculty/Pages/item.aspx?num=9200>.
- Kaplan, R. S., & Norton, D. P. (2001). *The Strategy-Focused Organization*. Boston: Harvard Business School Publishing.
- Kaplan, R. S., & Norton, D. P. (2008). Mastering the management system. *Harvard business review*, 86(1), 62-77, <https://pubmed.ncbi.nlm.nih.gov/18271319/>.
- Kasiri, N., Sharda, R., & Hardgrave, B. (2012). A balanced scorecard for item-level RFID in the retail sector: a Delphi study. *European Journal of Information Systems*, 21(3), 255-267, <https://doi.org/10.1057/ejis.2011.33>.
- Khalid, S. K., Beattie, C., & Sands, J. S. (2022). Barriers and Motivations to Integrating Environmental Performance in the BSC: A case study in health care. *Sustainability Accounting, Management and Policy Journal*, 13(2), 297-319, <https://doi.org/10.1108/SAMPJ-09-2020-0325>.
- Khatib, A. E. (2020). The post war performance of the Lebanese banks using the balanced scorecard: A case study. *International Journal of Management and Sustainability*, 9(2), 54-75, <https://doi.org/10.18488/journal.11.2020.92.54.75>.
- Kollberg, B., & Elg, M. (2011). The practice of the balanced scorecard in health care services. *International Journal of Productivity and Performance Management*. 60(5), 427-445, <https://doi.org/10.1108/17410401111140374>.
- Koumpouros, Y. (2013). Balanced scorecard: application in the general Panarcadian hospital of Tripolis, Greece. *International journal of health care quality assurance*, 26(4), 286-307, <https://doi.org/10.1108/09526861311319546>.
- Kumar, J., Prince, N., & Baker, H. K. (2022). Balanced scorecard: A systematic literature review and future research issues. *FIIB Business Review*, 11(2), 147-161, <https://doi.org/10.1177/23197145211049625>.
- Lämsiluoto, A., & Järvenpää, M. (2012). Integrating greenness into a balanced scorecard in a food processing company. *TQM Journal*, 24(5), 388-398, <https://doi.org/10.1108/17542731211261557>.
- Lin, W. C., & Cheng, H. H. (2021). Improving maritime safety through enhancing marine process management: The application of

- balanced scorecard. *Management Decision*, 59(3), 604-615, <https://doi.org/10.1108/MD-08-2019-1044>.
- Liu, L., Ratnatunga, J., & Yao, L. J. (2014). Firm characteristics and balanced scorecard usage in Singaporean manufacturing firms. *International Journal of Accounting & Information Management*, 22(3), 209-222, <https://doi.org/10.1108/IJAIM-05-2013-0038>.
- Lovaglio, P. G., & Vittadini, G. (2012). The balanced scorecard in health care: a multilevel latent variable approach. *Journal of Modelling in Management*, 7(1), 38-58, <https://doi.org/10.1108/17465661211208802>.
- Lueg, R., & Vu, L. (2015). Success factors in balanced scorecard implementations-A literature review. *Management Revue*, 26(4), 306-327, <https://doi.org/10.1688/mrev-2015-04-Lueg>.
- Matherly, L. L., & El-Saidi, M. A. (2010). Implementation of a strategic group map and balanced scorecard in a university setting. *International Journal of Management in Education*, 4(2), 216-231, <https://doi.org/10.1504/IJMIE.2010.030877>.
- Martunis, A., Dalimunthe, R., Amalia, K., Juanita, J., Syahputra, H., Adam, M., & Masyudi, M. (2020). Adaptation of the balanced scorecard model to measure performance of the departments at Dr Zainoel Abidin Regional General Hospital, Banda Aceh. *Journal of Modelling in Management*, 15(2), 365-379, <https://doi.org/10.1108/JM2-09-2018-0149>.
- Mendes, P., Santos, A. C., Perna, F., & Teixeira, M. R. (2012). The balanced scorecard as an integrated model applied to the Portuguese public service: a case study in the waste sector. *Journal of Cleaner Production*, 24, 20-29, <https://doi.org/10.1016/j.jclepro.2011.11.007>.
- Monteiro, S., & Ribeiro, V. (2017). The balanced scorecard as a tool for environmental management: Approaching the business context to the public sector. *Management of Environmental Quality*, 28(3), 332-349, <https://doi.org/10.1108/MEQ-11-2015-0201>.
- Norreklit, H. (2000). The balance on the balanced scorecard a critical analysis of some of its assumptions. *Management Accounting Research*, 11(1), 65-88, <https://doi.org/10.1006/mare.1999.0121>.
- Oliveira, C., Oliveira, A., Fijałkowska, J., & Silva, R. (2021). Implementation of balanced scorecard: Case study of a Portuguese higher education institution. *Management: Journal of Contemporary Management Issues*, 26(1), 169-188, <https://doi.org/10.30924/mjcmi.26.1.10>.
- Oliveira, H. C., Rodrigues, L. L., & Craig, R. (2020). Bureaucracy and the balanced scorecard in health care settings. *International Journal of Health Care Quality Assurance*, 33(3), 247-259, <https://doi.org/10.1108/IJHCQA-07-2019-0121>.
- Oyaneder, L. V., & Valderrama, S. M. (2016). A new balanced scorecard approximation to enhance performance management systems of Chilean wineries. *Journal of Wine Research*, 27(1), 1-18, <https://doi.org/10.1080/09571264.2016.1141761>.
- Oyewo, B., Moses, O., & Erin, O. (2021). Balanced scorecard usage and organizational effectiveness: evidence from manufacturing sector. *Measuring Business Excellence*, 26(4), 558-582, <https://doi.org/10.1108/MBE-01-2021-0005>.
- Pérez, C. A., Montequín, V. R., Fernandez, F. O., & Balsera, J. V. (2017). Integration of balanced scorecard (BSC), strategy map, and fuzzy analytic hierarchy process (FAHP) for a sustainability business framework: a case study of a Spanish software factory in the financial sector. *Sustainability*, 9(4), 527, <https://doi.org/10.3390/su9040527>.
- Peris-Ortiz, M., García-Hurtado, D., & Devece, C. (2019). Influence of the balanced scorecard on the science and innovation performance of Latin American universities. *Knowledge Management Research & Practice*, 17(4), 373-383, <https://doi.org/10.1080/14778238.2019.1569488>.
- Perkins, M., Grey, A., & Remmers, H. (2014). What do we really mean by “balanced scorecard?”. *International Journal of Productivity and Performance Management*, 63(2), 148-169, <https://doi.org/10.1108/IJPPM-11-2012-0127>.
- Pham, C. D., Vu, S. T., Pham, Y. T. K., & Vu, N. T. (2020). Evaluating performance of Vietnamese public hospitals based on balanced scorecard. *The Journal of Asian Finance, Economics and Business*, 7(6), 339-349, <https://doi.org/10.13106/jafeb.2020.vol7.no6.3>

- 39.
- Quesado, P., Marques, S., Silva, R., & Ribeiro, A. (2022). The Balanced Scorecard as a Strategic Management Tool in the Textile Sector. *Administrative Sciences*, 12(1), 38, <https://doi.org/10.3390/admsci12010038>.
- Quezada, L. E., Reinao, E. A., Palominos, P. I., & Oddershede, A. M. (2019). Measuring performance using SWOT analysis and balanced scorecard. *Procedia Manufacturing*, 39, 786-793, <https://doi.org/10.1016/j.promfg.2020.01.430>.
- Rompho, N. (2020). The balanced scorecard for school management: a case study of Thai public schools. *Measuring Business Excellence*, 24(3), 285-300, <https://doi.org/10.1108/MBE-02-2019-0012>.
- Sewell, W., Mason, R. B., & Venter, P. (2017). Socio-economic developmental strategies as retail performance indicators: A balanced scorecard approach. *Development Southern Africa*, 34(3), 365-382, <https://doi.org/10.1080/0376835X.2017.1308857>.
- Sharma, D., & Sharma, U. (2021). Analysis of balanced scorecard usage by private companies. *Pacific Accounting Review*, 33(1), 36-63, <https://doi.org/10.1108/PAR-06-2019-0076>.
- Singh, R. K., & Arora, S. S. (2018). The adoption of balanced scorecard: an exploration of its antecedents and consequences. *Benchmarking: An International Journal*, 25(3), 874-892, <https://doi.org/10.1108/BIJ-06-2017-0130>.
- Sivarajah, U., Kamal, M. M., Irani, Z., & Weerakkody, V. (2017). Critical analysis of big data challenges and analytical methods. *Journal of Business Research*, 70, 263-286, <https://doi.org/10.1016/j.jbusres.2016.08.001>.
- Sordo, C. D., Orelli, R. L., Padovani, E., & Gardini, S. (2012). Assessing global performance in universities: an application of balanced scorecard. *Procedia-Social and Behavioral Sciences*, 46, 4793-4797, <https://doi.org/10.1016/j.sbspro.2012.06.336>.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14, 207-222, <https://doi.org/10.1111/1467-8551.00375>.
- Umashankar, V., & Dutta, K. (2007). Balanced scorecards in managing higher education institutions: an Indian perspective. *International Journal of Educational Management*, 21(1), 54-67, <https://doi.org/10.1108/09513540710716821>.
- Weir, E., d'Entremont, N., Stalker, S., Kurji, K., & Robinson, V. (2009). Applying the balanced scorecard to local public health performance measurement: deliberations and decisions. *BMC public health*, 9(1), 1-7, <https://doi.org/10.1186/1471-2458-9-127>.
- Wu, H. Y., Lin, Y. K., & Chang, C. H. (2011). Performance evaluation of extension education centers in universities based on the balanced scorecard. *Evaluation and Program Planning*, 34(1), 37-50, <https://doi.org/10.1016/j.evalprogplan.2010.06.001>.
- Yongvanich, K., & Guthrie, J. (2009). Balanced Scorecard practices amongst Thai companies: performance effects. *Pacific Accounting Review*, 21(2), 132-149, <https://doi.org/10.1108/01140580911002062>.
- Yüksel, H., & Coşkun, A. (2013). Strategy focused schools: An implementation of the balanced scorecard in provision of educational services. *Procedia-Social and Behavioral Sciences*, 106, 2450-2459, <https://doi.org/10.1016/j.sbspro.2013.12.282>.
- Zangouinezhad, A., & Moshabaki, A. (2011). Measuring university performance using a knowledge-based balanced scorecard. *International Journal of Productivity and Performance Management*, 60(8), 824-843, <https://doi.org/10.1108/17410401111182215>.
- Zawawi, N. H. M., & Hoque, Z. (2019). The implementation and adaptation of the balanced scorecard in a government agency. *Australian Accounting Review*, 30(1), 65-79, <https://doi.org/10.1111/auar.12281>.