

Suitability of Referenced Models for Designing Balanced Scorecards in Healthcare Organizations

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Abstract:

Purpose: Nowadays, the healthcare sector is shifting towards a new management model more oriented to patients. This transformation necessitates the promotion of better coordination among various healthcare services. Consequently, this entails a revision of their Balanced Scorecard (BSC) framework to measure future outcomes related to patient health and well-being. The aim of this research is to identify the methodologies used in the development of a BSC for healthcare organizations and to assess its effectiveness in measuring and monitoring the management objectives.

Design/methodology/approach: The study was conducted through a comprehensive literature review of the literature from 2013 to 2022 related to the design of BSC in healthcare organizations.

Findings: Based on the findings of this research, we conclude that none of the identified reference models adequately address the comprehensive objectives of healthcare organizations. Hence, further research is needed aimed at proposing a model adapted to the evolving management model of the healthcare organizations.

Practical implications: This present study improves the underlying motivations driving healthcare organizations to adopt Balanced Scorecards (BSCs) and align them with the strategic objectives, quality systems and processes, to facilitate more informed decision-making. Consequently, this research is relevant in the context of selecting an appropriate methodology for designing, implementing, and enhancing BSCs in a healthcare organization.

Originality/value: This is one of pioneering efforts to assess the influence of the Balance Scorecard on decision-making within healthcare organizations, considering aspects encompassing strategy, quality systems and the performance indicators performance as well as the relation between them.

Keywords: balanced scorecard, strategy, healthcare organizations, KPIs, indicators performance, quality system

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1. Introduction

The BSC provides information for decision-making and converts an organization's strategic objectives into a consistent set of performance measures (Baker & Pink, 1995). The decision-making process depends on the quality of the BSC data, a crucial factor for its design (Franklin-Fincowsky, 2011).

According to Larry Brandy in an interview with Robert S. Kaplan and David P. Norton in 1993, the BSC is the "core" of the management system for running the company (Kaplan & Norton, 1996b). BSC plays an important role in decision-making process, providing valuable insights into how current decisions can impact future results.

In summary, the BSC is a compilation of specific and carefully chosen indicators. These indicators must be selected to serve the objective of facilitating decision-making. As such, the construction of the BSC demands a since meticulous alignment of purpose, strategy, and operations to provide feedback to each other (Protti, 2002).

All companies need to define the BSC based on its purpose, which means understanding what they do through their activities and processes (Benítez-Estévez, Caballé-Martín & Torra-Puig, 2008). In any case, the process of designing a BSC not only offers a comprehensive perspective of the organization's overall performance but also entails the creation of precise metrics tailored to measure specific actions (activities and processes). The ISO 9001 standard emphasizes the importance of defining objectives and planning, highlighting the need for monitoring indicators to evaluate organizational performance and ensure goals are met. By incorporating these indicators into a Balanced Scorecard (BSC), companies can achieve a real-time overview of their performance, identify areas for improvement, and make informed decisions. A well-structured BSC enhances transparency and accountability, making monitoring indicators vital for the effectiveness of quality management systems and promoting a culture of continuous improvement (UNE, 2015).

Nowadays, organizations find themselves immersed in dynamic environment characterized by continuous process changes. However, their BSC's do not always are adapted to this process transformation, thus making it difficult to adapt flexibly and quickly to the environment (European Foundation for Quality Management, 2020). This is the reason why is necessary to define new measurement mechanisms, with a systemic perspective and with a cause-and-effect relationship (Porporato, Tsasis & Marin, 2017).

Indeed, in recent years, the healthcare sector has redesigned patient care processes, moving from divided and disjointed care attention, primarily centered around medical activities towards a patient-centric approach. Because of this new model, healthcare organizations (HCO) have already begun to foster coordination among various healthcare services (hospital, primary care, social attention, community services, residential services, etc.). This transformation needs a revision of their BSC to measure future outcomes concerning patient health and well-being.

This paper presents the first outcomes of a literature review, shedding light on a gap in the overall effectiveness of using reference models for the development of BSC within healthcare organizations.

The rest of the paper is structured as follows. Section 2 explains the methodology used for the development of scoping review. Section 3 shows the results obtained in tables and graphs, and Section 4 analyzes generalizations of the results shown in tables and graphs.

2. Research Methodology

The study was conducted by a scoping review of the literature published from 2006 to 2022 according to the research objective to identify methodologies to build the BSC in HCO. The PUBMED, WEB OF SCIENCE, EMERALD, MEDES, WEB SCIENCE, and COCHRANE were considered the most relevant databases according to the purpose of the research.

The papers considered in this review were published from 2006 on. The reason is because the quality accreditation model in Catalonia began its design and development in 2006 (Departament de Salut, 2023). This system follows the philosophy of the European Foundation for Quality Management (EFQM). EFQM model focuses on the process and is directed toward achieving results, in order to promote the use of BSC in the territory's HCO.

The keywords that answer the PICO question (Population: Healthcare Organizations; Intervention: Balanced Scorecard Implementation and Performance Indicators; Comparison: Methodologies for the design of scorecards; and Outcomes: used methodology for dashboard design) proceed to the transformation of the purpose posed in the study to the PICO research question and finally to the keywords used for the bibliographic search. Table 1 shows the PICO-Inclusion/Exclusion criteria.

The review has been carried out by applying the Preferred Reporting Items for Systematic methodology (Page, McKenzie, Bossuyt, Boutron, Hoffmann, Mulrow et al., 2021). A keyword search strategy was employed using “Balanced Scorecard”, “Strategy”, “Purpose”, “Quality System or Quality management System”, and “Indicators performance or Performance Indicators”, “KPIs”, “Validation System”, “Making-Decision”, and “Health”.

The literature review was following a three-step process, following the systematic review flowchart drawing from Figure 1. First, Identification step, database search and identification of the most relevant articles to the study. Second, Screening step, the articles selected were read and classified with the inclusion and exclusions criteria and a database based on the dimensions and characteristics of each article was developed (Table 1). Third, Included step, the information synthesized in the database to answer the question research was analysed.

PICO	Inclusion criteria	Exclusion criteria	Search Strategy (keywords)
Population	Any type and level of healthcare organization.	Non- health organization.	Health
Intervention	Performance evaluation of healthcare organizations through BSC implementation.	Studies that only use the BSC to measure economic performance (relevance).	Balanced Scorecard; Strategy; Purpose; Key Performance Indicators or KPIs; Indicators performance; Purpose.
Comparison	Methodologies for designing, implementing, using, and improving BSC.	Studies do not highlight at least one of the four BSC phases, namely BSC design, implementation, use, or review.	Validation System; Quality management System.
Outcomes	Control capacity in decision making. Dashboards containing indicators that monitor the healthcare organization's purpose.	Poor indicator definition and/or inconsistency in their selection during the design process.	Purpose; Making-decision; Balanced Scorecard; Health; Key Performance Indicators or KPIs; Indicators performance.
Study design	All study designs.	–	Not limit about study design.

Table 1. PICO-Inclusion/Exclusion Criteria and Search Strategy

As shown in Figure 1, 2015 articles from selected sources have been found during the identification step. Then, 501 articles were removed because of duplicates and according to the first exclusions criteria “non-health organization” (described in Figure 1).

During the screening step, the titles and abstracts were examined using the second exclusion criteria, “relevance,” which refers to articles that do not focus on BSC (described in Table 1) and led to the removal of 1417 articles. After the abstract reading, the next stage of screening phase proceeded with the full-text reading of the 97 articles. The justification for the third exclusion criterion applied was consistent with the purpose of the study and focused on excluding articles that had poor indicator definition and/or inconsistency in their selection during the design process (described in Table 1), removing 54 articles and 2 of them because the language was neither English nor Spanish.

The 41 selected papers were evaluated using Figure 1, and the key conclusions are provided in the next section. The extracted data addressed the following topics: article identification information; geographic location; scope of the study; level of care, models for BSC design, purpose of BSC use, and BSC categorizations.

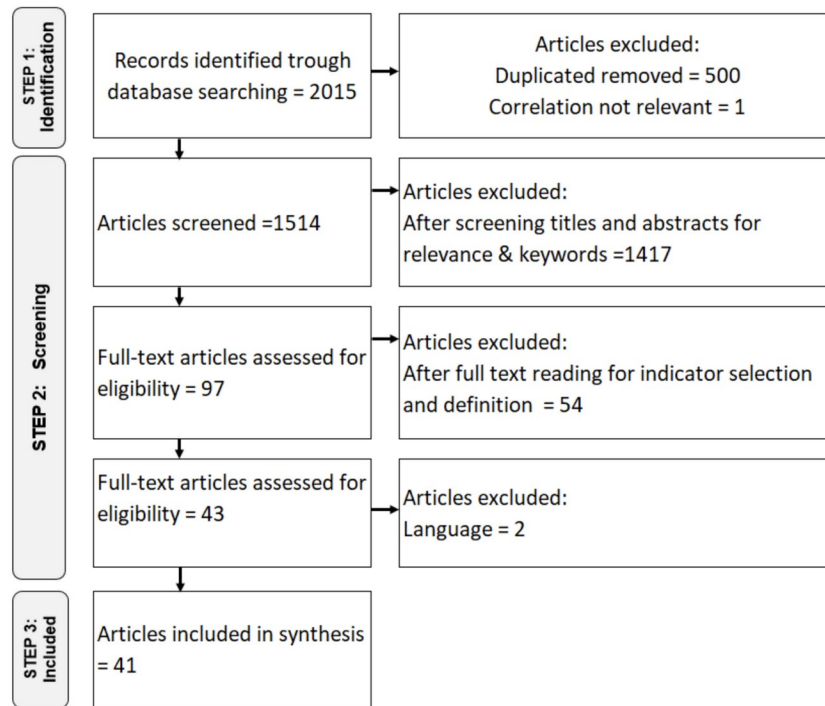


Figure 1. Systematic review process

3. Results

The analysis of the selected papers has evidenced the use of BSCs in the healthcare area, over time, as well as the reference model used that have been adapted from the management literature or proposed specifically for the healthcare section. However, these models have some shortcomings as will be shown below. The first section discusses the outcomes of the distinct reference models that were used to build and deploy BSCs in HCO whereas the second section analyses the use of each model and its purpose.

Table 2 shows the 41 articles included in the study, assigning a code for their identification in the results shown in section. The year of publication and the reference model used are shown: Donabedian (DB), Kaplan & Norton (K&N) without identified model (NM).

ID	First author	Article	Sector	Year	Model
1	Al-Jazairi, Horanieh & Alswailem	The usefulness of an ambulatory care pharmacy performance dashboard during the COVID-19 pandemic in a complex tertiary care system	Privat	2021	DB
2	Alexandra-Albertsen & Lueg	The balanced scorecard's missing link to compensation	Undefined	2014	K&N
3	Alipour, Jamshidizadeh, Bastani & Mehralian	Balanced Score card as a Strategic Management Tool in Hospital Pharmacies: An Experimental Study	Undefined	2022	K&N
4	Alvarez, Soler, Guiñón & Mira	A balanced scorecard for assessing a strategic plan in a clinical laboratory	Undefined	2019	K&N
5	Amati, Bellandi, Kaissi & Hannawa	Testing the Integrative Quality Care Assessment Tool (INQUAT)	Undefined	2020	DB
6	Amos, Au-Yong & Musa	Developing key performance indicators for hospital facilities management services: a developing country perspective	Public	2020	DB

ID	First author	Article	Sector	Year	Model
7	Amos, Musa & Au-Yong	Modelling the performance of waste management services in Ghana's public hospitals	Public	2020	DB
8	Behrouzi, Shaharoun & Maaram	Applications of the balanced scorecard for strategic management and performance measurement in the health sector	Public	2014	DB
9	Ballart & Galais	¿Gestión pública, privada o por el tercer sector? Diferencias en los resultados en atención primaria de Cataluña	Privat	2019	DB
10	Bartolomé-Benito, Jiménez-Carramiñana, Sánchez-Perruca, Bartolomé-Casado, Domínguez-Mandueño, Martí-Argandoña et al.	Desarrollo y evolución de un cuadro de mando integral en atención primaria: lecciones aprendidas	Public	2017	DB
11	Behrouzi et al.	Applications of the balanced scorecard for strategic management and performance measurement in the health sector	Undefined	2014	K&N
12	Benova, Moller & Moran	What gets measured better gets done better: The landscape of validation of global maternal and newborn health indicators through key informant interviews	Public	2019	DB
13	Benova, Moller, Hill, Vaz, Morgan, Hanson et al.	What is meant by validity in maternal and newborn health measurement? A conceptual framework for understanding indicator validation	Public	2020	DB
14	Betloch-Mas, Ramón-Sapena, Abellán-García & Pascual-Ramírez	Implementation and Operation of an Integrated Quality Management System in Accordance With ISO 9001:2015 in a Dermatology Department	Public	2019	DB
15	Buttigieg, Pace & Rathert	Hospital performance dashboards: a literature review	Public	2017	DB
16	Chandra & Kumar	Two-way assessment of key performance indicators to vaccine supply chain system in India	Undefined	2019	K&N
17	Ebener, Stenberg, Brun, Monet, Ray, Sobel et al.	Proposing standardised geographical indicators of physical access to emergency obstetric and newborn care in low-income and middle-income countries	Undefined	2019	DB
18	Elkanayati & Shamah	Could the balanced scorecard enhance pharmaceutical organisations' quality performance?	Undefined	2019	NM
19	Espallargues, Serra-Sutton, Solans-Domènech, Moharra, Benítez, Robles et al.	Development of a Conceptual Framework for the Assessment of Chronic Care in the Spanish National Health System	Public	2016	DB
20	Expósito-Tirado, Martínez-Sahuquillo-Amuedo & Ruiz-de-Vargas	Indicadores de calidad asistencial en rehabilitación	Public	2009	DB
21	Fitzpatrick & Riordan	Performance management of Clostridium difficile infection in hospitals - The carrot or stick approach?	Public	2016	DB
22	Giménez-Roca, Martínez-Sánchez, Calzada-Baños, Trenchs-Sainz de la Maza, Quintilla-Martínez & Luaces-Cubells	Evaluación de los indicadores de calidad en intoxicaciones pediátricas en un servicio de urgencias	Privat	2014	DB

ID	First author	Article	Sector	Year	Model
23	Al-Hammadi & Hussain	Sustainable organizational performance: A study of health-care organizations in the United Arab Emirates	Public	2019	DB
24	Harvey, Hassanzadeh, Aran, Rosenthal, Thrall & Abujudeh	Key Performance Indicators in Radiology: You Can't Manage What You Can't Measure	Privat	2016	DB
25	Hwang & Lee	Development of Performance Indicators for Clinical Research Coordinators Using the Balanced Scorecard in South Korea	Undefined	2020	K&N
26	Koumpouros	Balanced scorecard: application in the General Panarcadian Hospital of Tripolis, Greece	Undefined	2013	K&N
27	Martín, Cabré, Ruiz, Blanch, Blanco, Castillo et al.	Indicadores de calidad en el enfermo crítico	Undefined	2008	DB
28	Meena & Thakkar	Development of Balanced Scorecard for healthcare using Interpretive Structural Modeling and Analytic Network Process	Public	2014	K&N
29	Mesabbah & Arisha	Performance management of the public healthcare services in Ireland: A review	Public	2016	DB
30	Marta-Moreno, Bestué-Cardiel, Giménez-Muñoz & Palacín-Larroy	Programa de Atención al Ictus en Aragón (PAIA). Estrategia del cambio y resultados en el periodo 2009-2014	Public	2018	DB
31	Morilla-Herrera, Morales-Asencio, Fernández-Gallego, Berrobianco-Cobos, & Delgado-Romero	Utilidad y validez de un instrumento basado en indicadores de la Nursing Outcomes Classification como ayuda al diagnóstico de pacientes crónicos de Atención Primaria con gestión ineficiente de la salud propia	Public	2011	DB
32	Oliver-Parra & González-Viana	Facilitando la salud comunitaria. Indicadores básicos de salud por área básica de salud en Cataluña	Public	2020	DB
33	Rodríguez-Ortega, Porrero-Carro, Aranaz-Andrés, Castillo-Fe, Alonso-García & Sánchez-Cabezudo	Análisis comparativo de indicadores de eficiencia en cirugía mayor ambulatoria	Public	2018	DB
34	Rich, D'Hont, Linton, Murphy, Veillard & Chatwood	Performance indicators for maternity care in a circumpolar context: a scoping	Public	2016	DB
35	Smith & Loonam	Exploring strategic execution	Public	2016	K&N
36	Swart, Neilson, Good, Shrank, Henderson, Manolis et al.	Determination of multiple sclerosis indicators for value-based contracting using the Delphi method	Undefined	2019	DB
37	Villalbí, Casas, Bartoll, Artazcoz, Ballestín, Borrell et al.	Indicadores para la gestión de los servicios de salud pública	Public	2010	DB
38	Villalbí & Tresserras	Evaluación de políticas y planes de salud	Public	2011	DB
39	Vaishnavi, V.	Assessment of readiness level for implementing lean six sigma in healthcare organization using fuzzy logic approach	Public	2021	K&N
40	Villeta-Plaza, Landa-García, Rodríguez-Cuellar, Alcalde-Escribano & Ruiz-López	Proyecto nacional para la gestión clínica de procesos asistenciales. Tratamiento quirúrgico de la coleditiasis. Desarrollo de la vía clínica.	Public	2006	DB
41	Zidarov, Visca, Gogovor & Ahmed	Performance and quality indicators for the management of non-cancer chronic pain: a scoping review protocol	Public	2016	DB

Table 2. Articles includes in the study

3.1. Descriptive Analysis

The 41 selected studies are published in scientific journals belonging to either “management” and “quality” or “healthcare” research areas (Table 3). This is consistent with the inclusion criteria used to select papers.

Journal areas	N Journals
Journal for Quality in Health Care	1
Medical and Clinic Journal	8
Journal Public Health	8
Journal of Health Management	2
Journal Management Research	1
Journal Management and Business Excellence	3

Table 3. Scientific journals of the published articles

Among the reviewed papers, there were more than 12 different countries represented with the majority of studies originating from Europe (n=22, 54%) (. The Balanced Scorecard (BSC) was predominantly applied at the unit or clinical service level within hospitals (n=20, 49%), and these BSCs were most frequently developed for acute care hospitals or specialty care hospitals (n=30, 73%). More than half of the studies were conducted within the context of public healthcare systems, accounting for 61% of the total (n=25). Table 4 summarizes the characteristics of the included studies.

Characteristics of included papers on BSC in HCO	
	N (%)
Papers included (n)	41
Balanced Scorecards described	41
Year of Publication	9
2006-2009	2 (5%)
2010-2013	4 (10%)
2014-2017	14 (34%)
2018-2021	19 (46%)
2022	2 (5%)
Countries represented	> 12
World regions represented	
Africa	5 (12%)
America	2 (5%)
Asia	6 (15%)
Europe	22 (54%)
International	6 (14%)
Organisation/facility type	
Healthcare center (*)	13 (32%)
Unit/clinical service within a hospital (**)	20 (49%)
National health system	8 (19%)

(*) hospital, primary care center, mental health center, ...

(**) pharmacy, obstetric, dermatology, ...

Table 4. Characteristics of included articles on BSC in HCO

3.2. Adopted Models for BSC Implementation

From this scoping review, two models have been identified as reference models for the design of the BSC in an HCO: Kaplan & Norton's model (K&N) (Kaplan & Norton, 1992) and Donabedian's model (DB) (Donabedian, 2001). K&N's model is the reference model for the design of the BSC of many companies, mainly in the private sector. On the other hand, DB model was a quality system model proposed specifically for the healthcare sector.

The K&N model, founded in 1992, is an internationally validated management system tool for designing BSCs targeted at monitoring a company's objectives, implying that the strategic hypotheses developed in the strategic map are right (Isotools, 2023). Therefore, the BSC becomes a tool for the achievement of the strategy. K&N are known for their contribution to the definition of a BSC model that measures the evolution of the organizational strategy (Kaplan & Norton, 1992). The model categorises the Key Performance Indicators (KPI) into four perspectives: Financial, Client, Internal processes and Training and growth (Kaplan & Norton, 2000). It is applicable to any type of organization (Urrutia & Eriksen, 2005). The four perspectives provide an overview of what, when, and where to develop an action, a decision.

The financial perspective focuses on financial performance (cash flow, return on capital). The customer perspective focuses on the customer's perception and satisfaction through provision of care service (customer journal, relationship). The internal processes focus on how the activities are working and how efficient they are for the stakeholders. The training and growth perspective focus on innovation and improving internal processes (new products, knowledge). In addition, all perspectives are linked to the vision and strategy creating a cause-effect relation between them.

On the other hand, Avedis Donabedian in 1966 proposed a model for measuring and improving the quality of HCO (Samuel & Stanescu, 2015). DB model defines seven attributes by which the quality of care is measured as the pillars of quality: efficacy, effectiveness, efficiency, optimization, acceptability, accessibility, equity, and legitimacy (Donabedian, 2001), each of them needs KPI that measures the evolution of seven attributes. The attributes are structured in three dimensions structure, process, and outcomes (Donabedian, 2005).

The structure is concerned with all relatively stable material and organizational qualities, as well as the human and financial resources accessible in care settings (facilities and equipment, the suitability of clinical personnel and their organizational system, regulations and administrative procedures, financial and human resources, and information systems). The process is concerned with what doctors and providers can do for patients, how they interact with the diagnosed support activities, and the attitudes, capabilities, skill, and technique with which they are carried out (staff and patient behavior, application of clinical protocols, communication with the patient and healthcare teams and risk benefit of the clinical act). Finally, the outcomes are concerned with the diversity in health levels and patient satisfaction with the care received, which is given more weight due to the requirement to meet user expectations through higher quality service (clinical indicator compliance, costs, health improvement, disease self-awareness, satisfaction, and institutional accreditation) (Donabedian, 2001). In addition, all interconnected dimensions are centered on defining the quality of care in terms of outcomes, which are quantified as projected improvements in patients' health status.

As shown in Table 4, there is a clear use of reference models to design dashboards in the healthcare sector. Almost all papers analyzed identify the model they have used (n= 40, 95%). Although the most used model has been the DB (n=30, 73%), there is a significant volume of cases in which modifications have been made in terms of new perspectives and/or dimensions (n=11, 27% of the cases who have used a model have incorporated new categories).

As shown in Table 5, from the 41 papers (Table 2), 10 studies (24,4%) matched K&N's perspectives exactly containing the four perspectives. From the 41 papers, 30 studies (73.2%) matched DB's dimensions, and only 20 studies (49%) matched exactly the three dimensions, and 10 studies (33%) only used 2 dimensions. Finally, and especially important to the study's goal, only 1 study (2,4%) used a no-model without identified criteria.

On the other side, as shown in Table 6, there are 3 studies (7,3%) with BSC modifications developing new criteria for classifying indicators. Two DB model studies (ID7, ID23 Table 2) created new dimensions, specifically in the

areas of leadership and knowledge. The other hand, only one K&N model studies (ID25 Table 2) created a new perspective in the environment area.

BSC criteria	Model approach	National health system	Healthcare center	Unit/clinical service	Total
N (%) K&N perspective		3 (7,4%)	4 (9,5%)	3 (7,4%)	10 (24,4%)
Financial	Financial and operational measures	3 (7,4%)	4 (9,5%)	3 (7,4%)	
Customer		3 (7,4%)	4 (9,5%)	3 (7,4%)	
Internal processes		3 (7,4%)	4 (9,5%)	3 (7,4%)	
Learning and growth		3 (7,4%)	4 (9,5%)	3 (7,4%)	
N (%) DB Dimensions		9	4	17	30 (73,2%)
Structure	Assess and improve the quality of healthcare services	3 (7,4%)	6 (15%)	11 (27%)	
Processes		5 (12,2%)	9 (22%)	16 (39%)	
Outcomes		5 (12,2%)	9 (22%)	15 (36,6%)	
N (%) No Model					1 (2,4%)
Without criteria	–			1 (2,4%)	

Table 5. Models adopted in the reviewed articles classified by size typologies

BSC criteria	Model	National health system	Healthcare center	Unit/clinical service	Total
N (%) New Criteria		1	2	0	3 (7,3%)
Leadership	DB	1 (2,4%)			0
Environment	K&N		1 (2,4%)		0
Knowledge	DB		1 (2,4%)		0

Table 6. Articles with criteria modifications.

From the papers that used K&N, five reported that the BSC has allowed them to obtain good results, however, two of them reported that it can be adopted successfully after modifications. From the remaining papers, four reported that the goal of using K&N was to prioritize indicators not to improve outcome.

Mostly, the experiences found and analysed in the literature confirm the use of BSC K&N as the widely used tool in the design of scorecards in organizations (Suárez-Barraza, Ramos-Pujol & Heras, 2010). However, most HCO have made adaptations to the K&N model because it did not cover the real measurement needs. On the other hand, in most healthcare organizations, it returns to the traditional dashboards, only focus on quality and activity performance (Bohm, Lacaille, Spencer & Barber, 2021).

In the same way, it is observed that BSC in HCO has been production-oriented, which entails quantitative and qualitative tracking of care activities. However, in many cases, these do not measure the holistic purpose or the strategy, let alone its impact with production indicators, not the patient's experience during the attention care process. Therefore, there are operational BSC measuring the result at the time it is being calculated and not in relation to its impact in the future.

4. Discussion

The main error of HCO is that they focus their attention on how BSC is designed rather than how it is applied. Kaplan and Norton (1992) consider that companies should be flexible about following the four main perspectives of BSC and that modification is acceptable to meet the company's strategic objectives.

Generally, the application of the BSC has received limited attention within healthcare organizations. However, only few of these studies examine the real impact of these new BSC frameworks on improving the performance of strategy, processes, or quality systems within a healthcare environment. This limitation can be attributed to

organizations not sufficiently aligning their core purpose with their processes and quality assurance systems. Often, Key Performance Indicators (KPIs) are defined with a short-term focus, as healthcare teams tend to prioritize patient care over a holistic health vision. Therefore, there exists a disconnect between the real needs of healthcare teams and the monitoring systems in place, making these new BSC challenging to achieve.

The core concept of BSC may be the synchronization of strategy, processes, and quality systems (SPQ) to give information for decision-making and driving performance improvement with company, sector, and size (Terziev, Banabakova, Latyshev & Georgiev, 2017). In light of these considerations, a study with a triangulation approach is not only justified but also pursued. Figure 2 illustrates the Triangular Concept Strategy-Processes-Quality (T-SPQ), emphasizing the interconnectedness and interdependence of these critical elements.

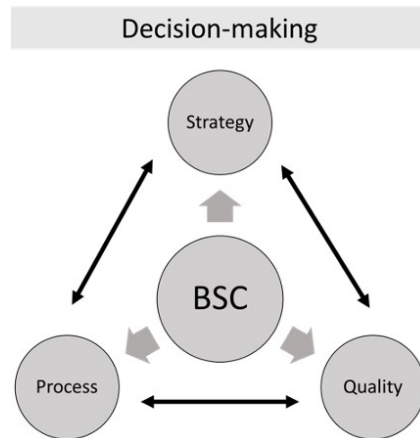


Figure 2. Triangular Concept Strategy-Processes-Quality (T-SPQ)

Firstly, the connection between quality systems and BSC lies in the fact that performance measurement systems have been developed by HCO to increase the quality of healthcare under the pressure of national and worldwide public reforms (Betto, Sardi, Garengo & Sorano, 2022). Quality healthcare is widely regarded as a fundamental human right. Within the healthcare sector the emphasis is placed on ensuring both quality and patient safety. Hence, in order to support the quality and patient safety of healthcare services, organizations must establish and continually monitor quality key performance indicators. In this context, when the quality of healthcare services improves, it often leads to a reduced cost, increased productivity, and ultimately, the availability of better services for customers (Mosadeghrad, 2012). Traditionally, quality indicators are often included into process indicators. However, research has demonstrated that in HCO, quality indicators are an independent quality-related perspective (Betto, et al., 2022). This denotes the importance of incorporating excellent key performance indicators as part of the scorecard.

Secondly, the relationship between strategy and BSC is based in the observation that many leaders still manage by micromanagement practices, often lacking a broader strategic view (Kaplan & Norton, 1996a). Micromanagement means concentrating on immediate tasks and an attempt to alleviate the pressure associated with day-to-day health assistance. Johanson, Skoog, Backlund and Almqvist (2006) argue that certain HCO have developed their BSC using only clinic-level metrics, connecting the clinical level to the overarching organizational purpose of the healthcare system. This highlights the importance of organizations expanding the scope of their BSC metrics to encompass the complexity of healthcare activities and not just the clinical dimension (Al-Thunaiyan, 2013). In an environment of complexity and uncertainty, strategic management involves the practice of “doing the right things right” by concentrating on the long-term effects of actual decisions (Huebner & Flessa 2022). The top-level leaders in the healthcare sector sometimes do not prioritize planning and management systems, often perceiving them as rigid. Consequently, this can lead to a restricted correlation between the strategy and the management measures (Johanson et al., 2006). The fact that the strategy is not shared across all levels of management can serve as a significant barrier to the BSC’s success (Kaplan & Norton, 1992).

Finally, the connection between the development of processes and the BSC depends on the capacity to monitor its compliance and directly impact the achievement of business results (Kaplan & Norton, 1992). The BSC concept contends that the most effective approach to assess an organization's processes is by adopting a "balanced" perspective that considers a range of performance indicators (Amaratunga, Baldry & Sarshar, 2001). Through the monitoring of the outcomes of internal operations, organizations gain access to predictive indicators that offer insights into strategic results, enabling it to manage change. As a result, organizations must establish or adapt their monitoring system to manage organizations and provide care, all while aligning their strategic objectives with day-to-day operations (Betto et al., 2022).

In summary, the justification for the relationship between the BSC and decision-making is based on the BSC's ability to facilitate the mobilization of corporate information by focusing and aligning resources and operations with the overall plan to achieve the company's objective. At its core, the BSC is not just about metrics, but about large-scale changes (Chandra & Kumar, 2019).

5. Conclusions

From this research we can state that the K&N model is not effective in the healthcare sector since it requires some modifications in order to reflect its characteristics and peculiarities, which makes care quality indicators or the balance of its expected benefits and risks more important, then it suggests the need to propose alternative perspectives to the traditional ones or incorporate specific indicators that represent said variable.

However, DB is a quality system that does not contemplate the global vision of the patient's dimension, that includes the social needs derived from the disease or intervention. This is why there are organizations that have done adaptations on the proposed dimensions.

Hence, given the peculiarities of this sector, further research is needed to analyse its characteristics and to be able to propose a new model for designing the BSC of its organizations. A new model HCO BSC that suits to their unique needs and goals, and that enables them to measure and monitor progress towards their management objectives.

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