

Balanced scorecard model in the function of improving the performance of healthcare organizations

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ABSTRACT

Performance measurement in the health sector is essential. Research results so far show that studies have mainly focused on the Balanced Scorecard (BSC) design process rather than the implementation of the BSC. There is no agreement on the perspectives that should be adopted in healthcare. Regarding the implementation of the BSC, leadership, culture and communication are especially important. Subject of research. A systematic review of research on the application of the BSC model in healthcare. Aim. Understanding the evolution of the BSC model in healthcare. The aim is to define a model for measuring the achievement of development goals through perspectives. Method. Inductive method as a systematic method by which the analysis of individual facts leads to general conclusions. The deductive and comparative method is a systematic application of the deductive way of reasoning in which individual conclusions were reached from general judgments. Using the case study method, the results of this research were defined, that is, the key business indicators, grouped into 4 perspectives, which enable the operationalization of the strategic goals of the development of the healthcare organization. Results. The possibility is demonstrated. The paper provides further research opportunities regarding the stages suitable for the implementation of BSC in healthcare.

KEYWORDS: balanced scorecard; healthcare; health management, performance measurement.

SAŽETAK:

“BALANCED SCORECARD” SUSTAV U FUNKCIJI POBOLJŠANJA POSLOVANJA ZDRAVSTVENIH ORGANIZACIJA
Uvod. Mjerenje performansi u sektoru zdravstva je neophodno. Dosadašnje studije uglavnom su se fokusirale na proces dizajna BSC-a, a ne na implementaciju, BSC-a. Nema suglasnosti o perspektivama koje treba usvojiti u zdravstvu. Što se tiče implementacije BSC-a, posebno je bitno liderstvo, kultura i komunikacija. Predmet istraživanja. Sistemski pregled istraživanja primjene BSC modela u zdravstvu.

Cilj rada. Razumjevanje evolucije BSC modela u zdravstvu. Definiranje modela za mjerenje ostvarenja ciljeva razvoja kroz perspektive. Metod. Induktivna metoda kao sistematska metoda kojom se analizom pojedinačnih činjenica došlo do općih zaključaka. Deduktivna i komparativna metoda je sustavna primjena deduktivnog načina zaključivanja u kojem su se iz općih sudova došlo do pojedinačnih zaključaka. Metodom studije slučaja definirani su rezultati ovog istraživanja odnosno ključni pokazatelji poslovanja, grupirani u 4 perspektive, koji omogućavaju operacionalizaciju strateških ciljeva razvoja zdravstvene organizacije. Rezultati. Pokazuje se mogućnost unapriđenja performansi zdravstvenih organizacija implementacijom BSC modela. Rad pruža dalje mogućnosti istraživanja u vezi sa fazama pogodnim za implementaciju BSC-a u zdravstvu.

Zaključak. Rezultatima istraživanja pokazana je mogućnost implementacije BSC modela u zdravstvene organizacije koje imaju razvijenu hijerarhijsku (decentraliziranu) strukturu.

KLJUČNE RIJEČI: model uravnoteženih ciljeva, zdravstvene organizacije, performanse.

INTRODUCTION

Balanced Scorecard (BSC) represents a modern approach to measuring and managing the performance of strategically oriented organizations, which finds a balance between financial and non-financial indicators, internal and external environment, short-term actions and set strategy [1]. Achieving this balance can be viewed through four different perspectives, which have their own benchmarks and goals and are interconnected with the main strategy.

The COVID pandemic has placed additional demands on health systems to control resources and provide health services [1], control resources and align goals with their mission in order to continue providing care effectively [2]. For many years, spurred by international public reforms [3–9], health systems and organizations have been developing performance measurement systems to improve the efficiency and quality of health care [10–20]. During the last two years, the outbreak of the pandemic has pressed even more the need to monitor internal processes, patient flows, etc., in order to support the efficiency and quality of care services provided [21–23]. Monitoring key performance indicators was essential to achieve organizational goals [24]. Moreover, the COVID-19 pandemic has clearly indicated the necessity of obtaining real-time information about patients in the ward, the number of visits, etc. in order for the organization to adapt to the necessary changes [25].

Countries around the world are mostly facing the problem of high increase in health care costs. Increasing costs are a reflection of rising technology costs, an aging population, an increase in the number of chronically ill patients, and an increase in the demand for health care. An additional difficulty is determining the true value of healthcare services [26].

One model for measuring performance and supporting strategy implementation is the Balanced Scorecard (BSC). Since the 1990s, reforms at the international level have sought new management models for measuring and monitoring performance.

The BSC has become a tool that supports the alignment of the organization's mission, vision and strategy with action using performance measurement. The BSC "translates the company's strategy into specific measurable objectives" and, in this way, the core of the BSC is the strategy and vision of the organization rather than control [27]. A few years later Kaplan and Norton [28] and Kaplan [29] deepened the design of the BSC for non-profit settings. Traditionally, the BSC model is a "balanced" set of financial and non-financial measures that provides information from four perspectives, ie. financial, consumer, internal business and innovation and learning (or learning and growth). Regarding the implementation of the BSC, since the beginning of the 2000s, several authors have investigated not only the drivers but also the barriers to implementation [30–31]. Inamdar et al. [32] described the challenges facing the implementation of the Balanced Scorecard in a healthcare organization (e.g. the need to obtain work time and commitment, making the scoreboard simple and easy to use. As drivers of successful implementation of the BSC, some authors cited trust, support leadership [33]. Despite the growing interest in patient-centered care or community building, a recent review identifies that, even if necessary, "patients are not engaged to support patient- and family-centered care.

The second case describes how organizations sought to use the BSC to make strategic decisions and monitor internal processes [34]. However, the available studies are not sufficient to understand how healthcare organizations use BSC (only a few papers declare explicitly how they use BSC in daily activities). Accordingly, further investigation is needed to shed light on this field of research. By providing insight into the evolution of BSC in healthcare, the research findings could offer avenues for future research both in academia and among policy makers who might become aware of how healthcare organizations use BSC.

RESEARCH RESULTS - BSC IN PUBLIC HEALTH MANAGEMENT

Management in health services, regardless of the magnitude of the service, aims to organise expenses, improve (or at least maintain) the quality of the service and expand its service capacity [35]. BSC is a method that has been widely used in health services, because it promotes the improvement of the information management system, focuses on the relationship between qualitative and quantitative factors, the rapid checking of the implemented measures [36].

It is clear that the sustainability of a health service depends on the orchestrated action of several variables, such as quality of care, health knowledge and information, physical and human resources, adequate structure and equipment and strategic management in line with community participation [37].

This way, a survey was conducted in a public hospital in Indonesia, which the authors used the BSC to assess the performance of the hospital's inpatient service between 2013 and 2015. Analysis of the financial perspective showed that, financially, the hospital is able to maintain the financial level, but there has been a decline in efficiency, which is directly related to the management strategy established during these years. On the other hand, effectiveness indicators showed high indexes [37].

A study that evaluated different performance strategy methods, in combination, in order to establish which indicators have greater weight in the definition of management strategies, found that the BSC's 'client' and 'innovation and learning' perspectives were the indicators with greater importance in the evaluation and definition of performance strategies in the health area [38]. An analysis by 25 experts in public hospitals in China considered the BSC and its four perspectives and from them created nine indicators that they called second degree and 36 third degree indicators, in order to perform a tracking on the strategic performance of these located hospitals in an underdeveloped region in China. It was identified in the study that some hospitals, despite having high scores on financial indicators, have problems with the team. Many managers and few trained professionals. In contrast, other hospitals in the region had high rates of client perspective, but financial and internal processes with major failures [39]. This study makes clear the importance of taking the exclusive focus on financial parameters and expanding the management focus to factors called non-financial.

A study was accomplished in several regions of Ethiopia and, through the BSC; it was found that the performance in health management at a national level was low in relation to infrastructure, service provision, human resources and medication purchase management [36].

Catuogno et al. [41]. concluded after the implementation of the BSC that, for a successful strategic performance, it is necessary to improve and bring closer the relationship between directors and medical staff, including nurses and other professionals involved.

Moreover, define a scheme for collecting and updating the indicators established with frequent review and redirection of goals, as well as establishing new indicators when it is necessary.

PROPOSAL FOR BSC MODEL IMPLEMENTATION IN PUBLIC HEALTHCARE ORGANIZATIONS

Strategy implementation is one of the biggest challenges for any organization. Support through the BSC system helps the implementation of the strategy in the function of more efficient operations. Starting from the defined mission, vision and strategy of the organization, by introducing and developing goals and measures according to individual perspectives within the BSC model, more effective management and ensuring sustainability is possible. Each perspective includes some of the set goals, and as each goal has its own measure, through the model of the system of balanced goals, a strategic map is created as a cause-and-effect connection of goals and appropriate measures, that is, as a means of communicating set business strategies.

The strategy presented in the BSC model is developed on three levels: objectives, measures/activities and performance indicators. Perspectives are also listed in the tabular elaboration of the goals (C- customers; F- financial perspective; P- process quality and LG- learning and growth). The realization of the goals is foreseen through a series of measures/activities, the implementation of which should achieve the intended goal. Therefore, each measure/activity is assigned a specific goal. Along with the goals and measures/activities, the key indicator of success (effectiveness) and the desired final value are listed.

The financial perspective (F) groups the goals related to ensuring the financing of basic and health care programs.

The Customers perspective (C) groups goals related to strengthening recognition and image through the promotion of public health programs. The perspective talks about the general and long-term role of the system of public health institutions in society. She talks about responsible business and resource management, social engagement and providing equal opportunities.

The perspective of learning and growth (LG) contains goals related to the development of human resources in health organizations and teaching-scientific aspects of activities and professional staff in support activities. It is not possible to think about any development in the healthcare system without investing in the development of excellent personnel potential. Of course, retaining young experts in institutions is also a special challenge, which is difficult in the conditions prevailing on the labor market. This perspective envisages systematic personnel development based on professional development, encouragement of scientific excellence and research mobility. This is of particular importance for the training of different levels of managers in the health system, who must possess managerial skills, know well the specifics of the activity and the possibilities of positioning the services of the health system on the target market.

Existing managers should be provided with specific education programs in sales and marketing in order to promote such an assortment of offers, which will motivate potential users to come to a certain institution of a health organization with its quality and specificity. The development of human capacities in support activities is primarily focused on the acquisition of knowledge in the domain of quality and project management. The perspective of learning and growth will involve a large part of financial resources in the future period, and significant investments will be needed to realize this perspective and lead to a strategic shift in the health system, i.e. the achievement of high quality services and business excellence. In this sense, it sets goals that public health institutions should achieve in the foreseen strate-

gic period of validity of this strategy: improving the quality of health, environmental protection and safety. An increase in the quality of health leads to higher productivity, which results in an increase in income, i.e. an increase in the standard of living. The final goal is to increase the quality of life of the residents. Quality is the added value that a healthcare professional contributes to patient care. In all perspectives, the indicators of success and their desired values are listed, according to which the success of the strategy implementation will be evaluated. The BSC model set up in this way and the associated goals, measures and performance indicators represent a balanced view of the development of healthcare organizations.

Table 1: Customer perspective

CUSTOMER PERSPECTIVE	STRATEGIC OBJECTIVES	STRATEGIC DIRECTIONS	PERFORMRNACE INDICATORS
C1	<ul style="list-style-type: none"> □ Improving the health indicators monitoring system. 	<ul style="list-style-type: none"> □ Organization of public health programs of quality of life for the target population; □ Continuous implementation of a survey on self-assessment of health; □ Application of quality of life indicators QALY. 	<ul style="list-style-type: none"> □ Reduction of incidences of diseases by (%); □ Improved health condition of residents by (%).
C2	<ul style="list-style-type: none"> □ Increasing the number of public health programs for the needs of residents. 	<ul style="list-style-type: none"> □ Implementation of new public health programs; □ Education of stakeholders in the health system about consumption of available services. 	<ul style="list-style-type: none"> □ Increased number of public health programs compared to last year.
C3	<ul style="list-style-type: none"> □ Increasing user satisfaction with the quality of services provided. 	<ul style="list-style-type: none"> □ Increased marketing activity of existing and new public health services. 	<ul style="list-style-type: none"> □ Decreased share of residents' complaints by (%); □ Increased rating of residents' satisfaction compared to last year by (%).

Source: Authors

Table 2: Financial perspective

FINANCIAL PERSPECTIVE	STRATEGIC OBJECTIVE	STRATEGIC DIRECTIONS	PERFORMANCE INDICATORS
F1	<ul style="list-style-type: none"> Ensuring financial sustainability through the realization of current continuous Income. 	<ul style="list-style-type: none"> Contracting services with private foreign and domestic health insurance, 	<ul style="list-style-type: none"> Increased revenue from service users by %.
F2	<ul style="list-style-type: none"> Securing funds from the EU and other funds for financing equipment and knowledge/professional development (know/how). 	<ul style="list-style-type: none"> Establishment of the process of monitoring public calls for allocation of funds from the EU and other funds; Ensuring personnel resources for applying and managing EU projects. 	<ul style="list-style-type: none"> Increased income from EU and other funds by % compared to total income; Increased the number of approved projects for financing from the EU and other funds for at least 1 project on an annual basis.
F3	<ul style="list-style-type: none"> Ensuring an optimal (satisfactory) financial result. 	<ul style="list-style-type: none"> Introduction of a cost monitoring system; Implementation of the Revenue management concept. 	<ul style="list-style-type: none"> Reduced non-quality costs by (%); Reduced fixed costs by (%); Reduced variable costs by (%); Achieved a positive financial result; Net profit increased by (%).

Source: Authors

Table 3: Business process perspective

BUSINESS PROCESS PERSPECTIVE	STRATEGIC OBJECTIVE	STRATEGIC DIRECTIONS	PERFORMANCE INDICATORS
P1	<ul style="list-style-type: none"> Improve the quality of healthcare services. 	<ul style="list-style-type: none"> Accreditation of medical laboratories; Quality management system certification. 	<ul style="list-style-type: none"> Increased number of accredited methods by (%); increased number of certified processes by (%).
P2	<ul style="list-style-type: none"> Modernization of equipment and investments in supporting infrastructure. 	<ul style="list-style-type: none"> Procurement of modern medical equipment; Construction of sports-recreational and/or health facilities. 	<ul style="list-style-type: none"> Improved quality of equipment and supporting infrastructure expressed by the value of the planned investment; Increase in annual investment in modern technologies by (%); compared to last year Increase in healthcare capacity by (%).

Source: Authors

Table 4: Organizational capacity perspective/learning and growth

ORGANIZATIONAL CAPACITY PERSPECTIVE/ LEARNING AND GROWTH	STRATEGIC OBJECTIVE	STRATEGIC DIRECTIONS	PERFORMANCE INDICATORS
OC1	<ul style="list-style-type: none"> □ Improvement of professional and managerial skills of employees in healthcare organizations 	<ul style="list-style-type: none"> □ Professional training of employees; □ Acquisition and dissemination of knowledge; □ Education on the use of modern business methods and methods. 	<ul style="list-style-type: none"> □ Increase in the number of completed (permanent) educations in relation to the total number of employees by (%); □ Higher number of internal educations in relation to the number of external (congresses, conferences)
OC2	<ul style="list-style-type: none"> □ Increasing employee satisfaction and productivity. 	<ul style="list-style-type: none"> □ Establishing a reward system; □ Encouraging a healthy lifestyle; □ Enabling availability of state-of-the-art technology 	<ul style="list-style-type: none"> □ Employees achieve very good and excellent grades during the annual evaluation of work performance, □ Increase in employee satisfaction with working conditions by (%)
OC3	<ul style="list-style-type: none"> □ Increasing innovative solutions 	<ul style="list-style-type: none"> □ Encouraging scientific research activity □ Designing innovative methods, procedures, treatments for the needs of new public health programs. 	<ul style="list-style-type: none"> □ Increased number of employees with the highest academic titles (master's and doctorate), □ Increased number of innovations (methods and procedures).

Source: Authors

DISCUSSION

Research findings on BSC in healthcare contexts by Gonzalez-Sanchez et al. [41], show that healthcare organizations mainly focus on the traditional four perspectives, namely, financial, consumer, process, learning and growth. Research results [42,43] indicate that great attention should be paid to financial indicators such as expenses, financial availability and sustainability [44] and net profit margin [42].

The perspective related to the process is analyzed by [44]. This is consistent with the BSC's use of "focusing attention", where workers are motivated to achieve specific goals [45].

Given the emphasis placed on BSC design, future research could analyze why there is no agreement between perspectives. Although indicators differ between organizations and settings, perspectives are not consistent with specific healthcare settings. For example, the learning perspective has been adopted by health organizations [46,47] and primary health care services [48,49]. At the same time, the community perspective includes some indicators that traditionally belong to the user perspective [48].

Regarding barriers and drivers in the implementation of BSC, the research sheds light on the lack of a standardized way of ranking factors that enable or limit BSC. Some drivers overlap, for example, communication [50,51], absence of duplicated information and meetings are closely related. Similarly, leadership support can foster process understanding [52]. The same happens with barriers. The lack of an organizational culture ready to accept changes is closely related to the perception of the BSC as a control tool, with a narrow view of the BSC.

Although analyzed in several studies [53,54], there is a need for further research to identify a standard way to explain the barriers and drivers of BSC implementation. Thus, future research could focus on management practices that enable BSC implementation at different organizational levels (ie, systems, organizations, unit/department primary care services).

As for the last stage of BSC adoption, that is, BSC review, only a few papers explicitly mention it [55,56]. Future research should focus on this fourth stage although during the initial stage of BSC design the review process is essential, meetings and participation in short-term decisions [57] can favor BSC implementation

Finally, regarding the current situation, in which healthcare organizations have faced the COVID-19 pandemic, it would be interesting to empirically investigate the different results achieved in organizations that have already implemented the BSC model and in those that have used other measurement systems. Given the importance of obtaining real-time information during a crisis [58,59], it would be interesting to analyze the effectiveness of the BSC in this specific context. In the same way, it would be interesting to understand which BSC measures are useful during a pandemic context to sustain quality and efficiency in care delivery.

A study by Zoe Radnor showed that the implementation of this methodology at the Scotland Cancer Treatment Center resulted in a reduction of waiting time for examinations, as well as in the improvement of patient flow through the system of service provision by 48% [60]

Regardless of the positive results derived from the application and use of the BSC as reviewed by Amer et al. [61] found no

studies regarding the effects of BSC during a pandemic. The quality of services in general, including health services, is subjective in nature. It depends, first of all, on the level of meeting then and expectations of the users [62].

CONCLUSION

From the present work, it was possible to verify the effectiveness of the BSC method in health services with different missions, visions, objectives and regardless of the complexity of the health service.

Through the framework of the review, which is illustrated through the perspectives of the BSC, the possibility of operationalizing the strategy in healthcare organizations.

The authors identified the BSC as the most accepted model for operationalizing the strategy of healthcare organizations. However, future research could confirm through a literature review what other tools/models healthcare institutions are using to measure performance or if they are not adopting the tools

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