

The Role of Strategy Maps in Strategic Management in Hospitals

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Abstract

Healthcare facilities wanting to effectively manage existing resources, as well as better and more efficiently respond to changes in the environment, looking for new management methods. Taking into account the above factors management modern health care facility will require managers to take an interest in the strategy map. Subjected to analysis of a strategy map and show its role in the strategic management of health care facility. The analysis was performed using domestic and foreign literature and legislation.

Keywords: *Strategy maps, Hospital, Management*

1. Admission

As a result of the transformation of the health care system, medical facilities have been transformed into independent units, the functioning of which is based on an economic calculation, i.e., they have become subjects of the market game. These entities, wanting to manage the existing resources more effectively, and to respond better and more efficiently to changes taking place in the environment, are looking for new management methods.

Taking into account the above factors, managing a modern healthcare facility will require managers to be interested in the strategy map. The aim of the article is to present a strategy map and its role in the strategic management of a healthcare facility. The analysis was made with the use of domestic and foreign literature and legal acts.

Conclusions formulated in the study may be helpful in managing public health care organizations.

2. Characteristics of Strategic Management in Health Care Institutions

Strategic management has been of interest to health care facility managers for many years. Unfortunately, in Poland, the procedure of creating an organizational strategy, forced on many hospitals by the legal system, turned out to be impossible to implement in many cases; managers did not implement strategic control. Therefore, it is necessary to consider what actions should be taken in order for the strategic management of a medical facility to bring the expected results.

The principles of building a strategy in relation to health care facilities can be limited to several conditions [1]:

- the healthcare facility must have a well-organized internal information system,
- the healthcare facility must precisely define its future position, using all available sources of knowledge and possibilities to influence the environment,
- the healthcare facility must define the internal conditions for the implementation of the strategy, i.e., the resources it will have at its disposal,
- the healthcare facility must make the best choice from several policy options developed jointly by management, regulatory authorities and workers. In order to select variants, several critical determinants that have a significant impact on the future of the hospital should be distinguished,
- the healthcare facility must develop a strategic plan, i.e., a path to reach the proposed solutions, using available resources,
- health care facility managers must obtain the support of the staff for the implemented strategy,
- health care facility managers should ensure ongoing supervision and control of progress in the implementation of the strategy at every stage of the strategy implementation and later at the stage of its implementation.

These activities guarantee not only the development of a good strategy, but also a stable future and lower risk associated with changes in the environment. The difficulties in developing and implementing strategies in healthcare facilities are obvious.

Among the many difficulties encountered at the stage of strategy formulation, one should distinguish [2]:

- difficulties in determining which of the services provided by a healthcare institution are the most important,
- lack of common organizational goals for doctors, nurses and administrative staff,
- lack of coordination and proper cooperation between the staff of the health care facility and the doctor and medical workers taking care of the patient before and after hospitalization,
- a threat to the functioning of the organization on the local medical services market,
- imbalance between quality of care, patient satisfaction, employee satisfaction and research and financial goals,
- the problem of internal communication and communication with the highest management in the area of strategic goals,
- problems with meeting legal requirements in the field of environmental protection,
- increased employee dissatisfaction.

In order to counterbalance the above problems, one needs to develop a mission and then consider how to translate the defined goals into actions.

3. Strategy Map - Concept

One of the ways to translate the strategy into operational activities is the strategic scorecard proposed by R.S Kaplan and D.P. Norton. The Balanced Scorecard as a management concept was developed in the 1990s. Its source was research initiated by Robert S. Kaplan of Harvard Business School and David P. Norton, founder and president of Renaissance Solution Inc., on measuring performance in organizations.

The strategic scorecard gives the management a universal tool to translate the vision and strategy of the organization into a set of logically related performance measures [3]. The strategic scorecard presents the strategy, i.e., the way in which the healthcare unit will fulfill its mission in the form of the so-called *strategy maps*.

The strategy map is the first step in building a strategic scorecard. According to R. Kaplan and D. Norton, the strategy map is to present the process of transformation of intangible assets into material financial effects. Thanks to this, it is the basis for strategy management [4]. Kaplan and Norton also believe that the strategy map is a generalized architectural structure describing strategy. It is used to analyze the consistency of a strategy and understand it. They allow for capturing in a logical manner the structure of connections between particular strategic elements [4].

Building a map of the healthcare institution's strategy shows the role of tangible and intangible factors, which allows them to be properly selected for the strategy being implemented, and thus increases their effectiveness. This makes it possible to indicate, on the one hand, unnecessary assets that should be liquidated, and on the other hand, missing assets and skills, with which the resources of a healthcare institution should be supplemented [5].

Creating a strategy map is based on *five principles* [6]:

1. The strategy balances the opposing forces. Intangible investment in assets in the long term is opposed to cutting costs in the short term.
2. The strategy is based on a differentiated value proposition for the client. This means that the value offered is to strictly meet the needs of consumers, and this in turn is associated with a good recognition of their needs.
3. Value is created in internal business processes. Results in the financial and customer perspective are a consequence of actions taken within the processes.
4. The strategy consists of parallel, complementary themes.
5. Strategic fit determines the value of intangible resources.

To use a strategy map as a strategic management tool, first you need to create a coherent system of strategic goals linked by cause-and-effect relationships. The prerequisite for using a strategy map as the basis of a Scorecard is an efficient strategic planning system in the company. As shown in FIG. 1, the development of a strategy map should be preceded by the definition of the mission and vision and formulation of the company's strategy. It is worth noting that in some entities, the implementation of BSC entails the commencement or arrangement of the strategic planning process [7].

The strategy of a healthcare facility is a set of hypotheses concerning the transition from the current state of the facility and achieving the desired state in the future. The strategy map groups these hypotheses into four perspectives and combines them into a coherent whole through the causal relationships between them [8].

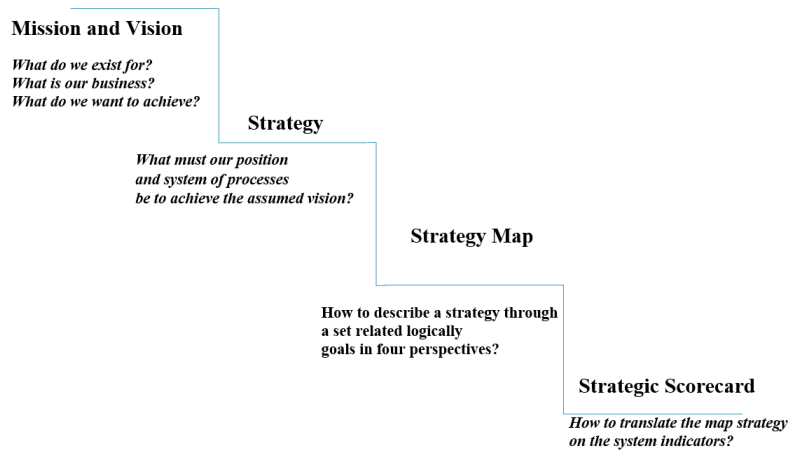


FIG. 1. Strategy map in the strategic planning process. Source: [7].

If the healthcare facility has the right people, knowledge and technological infrastructure, it will be able to perform well the processes that deliver the expected value to patients and the local community. Thus, it will ensure the achievement of financial goals - efficiency and growth - guaranteeing constant improvement of the organization's value. The use of a strategy map and strategic scorecard enables all activities to be integrated around the health care facility's strategy, which can contribute to increasing the effectiveness of its implementation. The strategy map is translated into practical activities by measures included in the strategic scorecard [8].

The construction of the strategy map is based on four perspectives: financial, patient, internal processes and knowledge and development. The description of the actions needed to be taken in each perspective is determined by the operational activities that create strategic initiatives for each perspective. All perspectives are created on the same principle, i.e., strategic goals and specific goals are defined in each perspective: *Why do we exist? What is our business? What do we want to achieve? What must our position and process system be in order to achieve the assumed vision? How to describe the strategy through a set of logically related goals in four perspectives?*

3.1 How to translate the strategy map into a system of indicators?

The financial perspective indicates the management of the entity's financial resources and answers the question: "What should the financial results be to meet the expectations of the owners?". However, from the point of view of a healthcare institution, whose main goal is to balance costs with revenues and maintain financial liquidity, it will be more important to answer the questions: "How to stay in the medical services market, how to maintain relative financial liquidity or how to maximize costs?". As the price of the medical procedure is imposed by the payer, it should be examined in the financial perspective whether the medical procedure is provided at an appropriate cost.

Healthcare facilities may have strategic financial goals: increase in revenues, reduce costs, improve efficiency, improve resource use. These goals should constitute a reference point for the goals and measures formulated within the remaining perspectives [9]. The patient's perspective answers the question: "*How do patients perceive us?*" Patients are the most important group of clients in the healthcare sector, without whom the diagnostic and therapeutic process could not take place. The patient is at the heart of a healthcare facility's strategy. In this perspective, it is necessary to define who the hospital patient is, how the hospital intends to compete for it and what medical services are most expected and desired from the patients' point of view [10]. In this perspective, typical goals are: *customer satisfaction, increasing their loyalty, attachment, acquiring new customers or their profitability.*

Relationships with the payer or medical staff are also important in healthcare institutions. They contract and finance the entity's operations on behalf of the client. On the other hand, the goals and measures reflecting them must take into account the needs of both customer groups, and their implementation should contribute to the improvement of the financial situation [10,11].

The perspective of internal processes is the identification and improvement of the most important activities and key processes for the goals formulated in the financial and patient perspective. It answers the question: "What processes should be improved in a given unit?". In this perspective, the focus should be on the effectiveness of key internal processes implemented. These processes are considered effective when they meet patient expectations in a responsible financial manner. Internal processes of a health care facility should be understood broadly and include: innovation, proper treatment process and patient care after completion of the treatment course.

Objectives and their measures formulated in the perspective of internal processes should focus on those internal processes that will have the greatest impact on patient satisfaction and achieving financial goals. The perspective of internal processes has a very significant impact on the goals set in other perspectives. Objectives in this perspective enable faster and better-quality patient service and increase the efficiency of the hospital, which translates into an improvement in its economic results.

The development perspective answers the question: "Is it possible to develop further and create value?". The chain of cause-and-effect of strategic goals, crossing all four perspectives, begins in the perspective of development [4]. The development perspective defines the resources necessary to introduce changes in the implementation of tasks in terms of the patient, financial and internal processes. Medical resources and qualified medical staff should be an important area of the hospital's interests. The goals set in this perspective constitute the basis for the long-term development and improvement of the organization and are achieved over time.

They may be related to the development strategies of such areas as the introduction of a new medical procedure, the development of new management methods, the development of applied medical technologies or the development of medical personnel competences carried out by a healthcare facility. Individual goals should be defined for medical personnel [3].

The clearest differentiation in the definition of the Strategic Scorecard framework is between non-profit and profit-oriented healthcare units (for profit)- TABLE 1.

TABLE 1. The effects of implementing the Strategic Scorecard on the example of selected hospitals.

Hospital name	The problems	Action taken	Benefits and improvements
Multidisciplinary Hospital in Poznań, Poland	- \$ 10 million losses in 2017; - treatment duration longer by 15% from assumed	- improving communication with patients and doctors; - process orientation for the needs of patients	- cost reduction; - increasing income; - better patient care
Peel Memorial Hospital, Ontario	- the increase in the cost of treatment caused a change in government funding rules	- increased responsibility	- increase in the level of satisfaction customers from 89% to 95%; - the survey showed an increase in employee satisfaction from 33% to 75%; - better understanding of where it belongs invest time and money to know where the goals have been achieved; - achieving the ability to relate the vision and mission to measuring business performance
Specialist Hospital in Warsaw, Poland	- increase in the cost of treatment - increase in the cost of diagnostic tests	- process orientation for the needs of patients	- increased patient satisfaction hospitalized from 89.07% to 91.9%; - the number of visits for patients with economic, social or physical problems has increased from 82,350 to 97,658; - percentage of patients admitted in the intensive care unit within 3 hours of arrival to hospital increased from 47.8% in 2018 to 82.5% in 2019

Source: *own study based on* A.E. Badarudin, Z. Abdullah, Using Balanced Scorecard at performance measurement system at private hospitals, umconference.um.edu.my (access 20/04/2021).

The individual levels on the strategic scorecard are directly related to each other and influence each other. For example, the appropriate organization of hospital departments and their employees (development perspective) affects the quality and efficiency of patient service, and thus the level of their satisfaction (patients' perspective), and also affects the costs of providing medical services, i.e., also the financial result, which is element of the financial perspective.

The process of creating a strategy map is continuous, i.e., its implementation ends only when the designers have no doubts as to the correctness of the created relations. The correctness of the construction of the strategy map may be verified indirectly by analyzing the correlation between the measures assigned to individual strategic perspectives and initiatives [6].

A radar chart becomes useful in monitoring sustainable development based on the BSC method. The hospital goals measured by measures and indicators, arranged in the four perspectives of the card, can be easily averaged or calculated the percentage of achievement of all goals in a given perspective. On the basis of these data, it is possible to create a graph as shown the presented radar graph allows to track whether the tasks performed by the unit and monitored by the BSC run in a balanced manner. Easily it can be noticed that the goals in terms of knowledge and development and the perspective of internal processes are realized in 72% and 84%. The remaining perspectives, especially of finance, show that there is a problem with the implementation of tasks in these areas. It may even indicate a worse situation that the full involvement of the staff and the performance of processes in the organization does not translate into patient satisfaction but consumes considerable costs. This proves the poor organization of the hospital and the need to introduce important changes.

4. Discussion

There are claims in the literature that performance and behavior measurements are control mechanisms that are difficult to apply in the practice of health care units. However, in a situation where the possibilities of measuring results are small and the knowledge about the processes is incomplete, the implementation of a team control system based on the Strategic Scorecard seems to be the only alternative for health care units. However, the strategy map will allow the healthcare facility to fully understand the business plans, identify the target audience and turn it all into one coherent strategy.

The Strategic Scorecard is a tool that facilitates the implementation and monitoring of strategy implementation. Many hospitals are not ready for such a method as SKW. They struggle with debts; they do not have financial liquidity. They are poorly managed and a turbulent environment is not conducive to their recovery. By imitating our western neighbors and in accordance with the strategy of sustainable development, it seems right to at least follow the implementation of such tools as SKW.

If you want to discuss the competitiveness of entities providing medical services, one should also consider whether the medical services market is subject to the same laws as any other, and is there really competition on it? In the case of Poland, three main factors seem to have a decisive influence on the medical services market: the number of receipts from the health insurance premium and the policy of the National Health Fund (the Fund); the level of income (wealth) of the society and awareness of the importance of health and quality of life; increasing life expectancy, and therefore a general increase in the demand for medical services. Through contracts for the provision of medical services.

According to Joseph Stiglitz [12] the operation of the medical services market is imperfect due to: - information asymmetry, - limited competition, - the large role of non-profit institutions, - the role of insurance.

It should be emphasized that a medical service is such that patients buying a medical service are not able to fully assess its quality, because they buy the knowledge of a doctor, nurse, midwife, physiotherapist. Moreover, medical services, due to their individual nature, are difficult to compare. The above factors lead to a reduction in competition in the medical services market, so that medical workers providing advice at lower rates may be perceived by patients as less competent. Another characteristic feature of the medical market is the dominant position of non-profit institutions. In the case of Poland, this is particularly important due to the attitude of society towards the commercial provision of medical services, which has been shaped for many years. It should be noted, however, that in many cases this attitude is changing and the benefits of the development of commercial healthcare units in Poland are recognized, which have a positive impact on aspects such as the quality of medical services (e.g., through investments in modern equipment and the development of innovative treatment methods). and investing in the postgraduate training of medical workers) and the model of patient care and relation to his needs.

The last factor influencing the functioning of the medical market is the role of insurance. In theory, over-insurance is believed to lead to negative disruptions in the medical services market:

- uncontrolled increase in demand for medical services,
- the appearance of moral hazard,
- negative selection.

Kaplan and Norton's formulation of a management methodology called the Balanced Scorecard (BSC), drawing attention to the need to take into account the impact of non-financial factors on financial indicators, caused many healthcare institutions to use the BSC as a system to combine operational management with overall management. company strategy. The Strategic Scorecard, by integrating financial and non-financial information, presents a comprehensive assessment of the plant's effectiveness. The Balanced Scorecard is a management tool, not just a performance measurement. The performance measurement system should only be a means to an end - a financial planning system that facilitates the implementation of the strategy and its progress.

BSC implementations in hospitals listed in TABLE 1 were successful. They brought tangible benefits to the implementing units, and the most important indicators defined at the implementation level were improved. As it follows from the analysis of the above-mentioned cases, the economic effects were mainly the result of organizational changes and strict control of processes with the use of BSC measures. Of course, individual BSC implementations in different entities operate from different perspectives. This is mainly due to the different goals that these units face. The most marked variation in the definition of a Strategic Scorecard framework is between non-profit and for-profit healthcare entities.

Currently, Polish hospitals are trying to operate in accordance with the idea of sustainable development. This means that an organization should not develop in just one area or only in one direction. This is confirmed by many practical aspects. For example, continuous technological development does not necessarily lead to long-term success, nor does it necessarily lead to increasing profit or sales revenues.

J. Michalak [13] in his article *An Attempt to Evaluate a Balanced Scorecard in Hospitals* states that most of the hospitals analyzed in his work use a balanced scorecard of the first generation, i.e., use it as a set of financial and non-financial measures in four or more perspectives. The method of implementing balanced scorecards therefore corresponds more to the diagnostic type. According to J. Michalak, the number of implementations of a balanced scorecard is increasing in Poland. In the analysis of national units, this researcher only mentions the implementation of the strategic scorecard in three hospitals, which a few years ago made available on the Internet documentation indicating the use of the card.

5. Conclusion

Summarizing, it should be stated:

1. The strategy map is helpful in the strategic management process. It reflects the "heart" of the strategy and defines the ultimate criterion for the success of the strategy and indicates how to develop tangible and intangible infrastructure.
2. The strategy map helps to maintain the integrity of the strategy, pointing to the systemic cause-and-effect connections so that the key elements mutually reinforce each other [7].
3. The disadvantages of the method include difficulties in formulating cause-effect relationships, because their actual correlation may be different from planning formulations.
4. The growing value of the medical services market will increase competition. Changes in legal regulations, organizational changes and an increasing number of competing hospitals affect the healthcare market.
5. The observed changes should lead to a greater importance of economic efficiency with a simultaneous increase in the importance of the quality of medical services. It is also important to meet the growing needs of the patient.
6. In Poland, the reforms in the health care system so far have not brought the expected results, which has been proved in particular by the pandemic. However, further research should be carried out not only on the effective ways of financing the health system, but also on effective methods of managing health care facilities.

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