

## **INTEGRATED MANAGEMENT SYSTEM BASED ON THE BSC METHOD: APPLICATION IN POLISH HOSPITALS**

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Currently, hospital management is increasingly aware of monitoring their unit's operations. New directives require hospitals to create departments for Managerial Control. These have to boast appropriate achievements. The departments are obliged to provide reports on the completion of the hospital's objectives and tasks. In the article, the author aims at presenting the application of the Balanced Scorecard tool as an integrated system for hospital management. BSC is a helpful tool for managing a hospital with analysis of the state of financial and non-financial resources. In the paper, attention was brought to practical achievements of hospital directors that use IT tools. As a summary, the article provides a diagram that illustrates the strength of data quality required for the correct functioning of an integrated system, which at the same time shows its strong and weak points.

Keywords: Balanced Scorecard, Polish hospitals, Managerial Control, Integration Systems

### **1. Introduction**

At present, Polish health care units are obliged to actively compete based on free market rules. This requires their managers to think in strategic terms and, as a consequence, acting according to the strategy designed [3].

In the article, attention is focused on the issue of improving the organizational operations and solutions of health care units with a tool for strategy measurement

as an integrated system of management. The topic in question also refers to the implementation of a strategy in the process of managing a health care unit.

In Poland, a vast majority of hospitals are public entities. Their directors should understand the role of a modern public sector and the necessity to replace passive administration with the introduction of management rules based on established work standards and effectiveness indicators, controlling of plans and results of the actions taken, promoting their operations and rationalization of public spending. Such a management style should be based on continuous improvement and observation of competitors that also try to gain limited resources mainly coming from payers themselves.

In the opinion of the author, it is the BSC that forms a useful tool which makes it possible to evaluate the completion of strategic activities that at the same time allows for improving the unit and its analysis capabilities. The BSC can and even should function as an integrated system for hospital management.

The aim of this paper is to show how the BSC is actually used by hospitals. Linked to source documentation produced by Polish hospitals, a BSC model for hospitals will be proposed. Solutions for organizational problems of hospitals will be suggested.

The final result of the paper is a closer look at the BSC, which in the long run allowed for presenting a solution for the so-called case study dealing with a system of measurement (based on measures that are characteristic for the industry) for the completion of the strategy for the Lower Silesian specialist hospital.

## **2. Short description of the BSC method**

The Balanced Scorecard (BSC in short), or the Strategic Scorecard (SSC) is a tool for managerial accounting, used for strategic management and supporting enterprise's activities in the process of implementing business strategies. It measures the effectiveness of the entity, allows for current control and supports motivational activities. It makes it possible to perfectly apply the organization's general vision to specific operational actions and clear objectives for its employees at all organizational levels. It is a tool for managers to communicate with both the external and internal environment of the organization. With the method, it is possible to present the relations between investments into the development of the entity, optimization of processes and financial results. Additionally, this tool allows for handling future activities that let the entity react quickly to changing economic conditions. It is a proof of conscious pro-growth policy of the organization and encourages potential contractors to cooperate [9].

The Balanced Scorecard is a method that combines financial and non-financial measures, indexes for the results of operational activity and indexes outdoing external and internal efficiency. In the classic approach, it consists of four

perspectives: Financial, Customer, Learning and Growth, Processes. The application of the BSC in Polish hospitals is not satisfactory. In science, especially in the practice of foreign developed economies, the Balanced Scorecard method is nothing new [2]. In Poland, however, despite more than 10 years of its existence, this tool continues to be perceived as modern and innovative. It is associated with business and large organizations; yet, it has been perfectly adapted to non-profit organizations. Currently, the BSC is excellent for the completion of strategies such as: environmental protection, cities and regions, and the above-mentioned non-profit organizations. The reason for this situation is that the authors of the method, R.S. Kaplan and P.N. Norton, took into account its compliance with the currently valid ISO standards, the cycle for continuous improvement that they include (PDCA by W. E. Deming) and the now trendy idea of sustainable growth (compliance with concepts such as Six Sigma, TQM, CQI etc.) [2].

Most hospital managers are convinced that the BSC method was created for companies only. Global practice shows that the Balanced Scorecard has been successfully used in developed countries not only in the private sector for years now. Around the world, the BSC concept is a source of satisfaction for governmental organizations, local governments and other entities within the public sector, including hospitals, in order to fulfil the needs of subjects who use their services in an efficient and effective way.

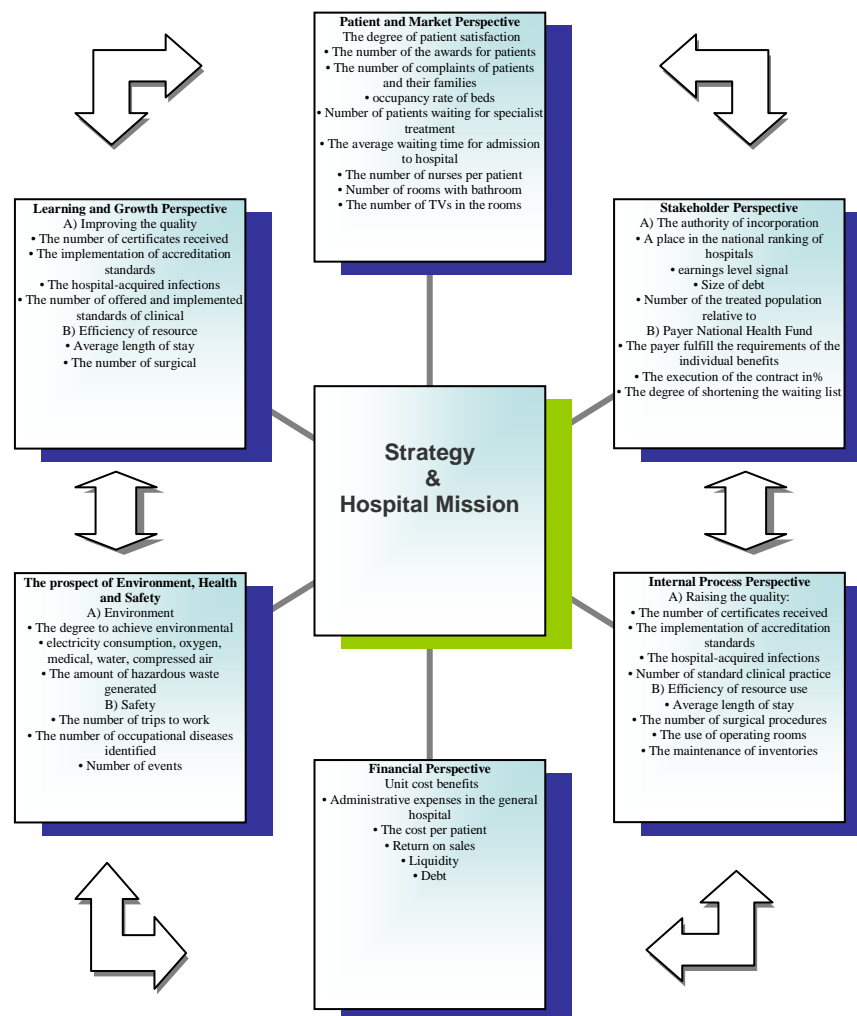
At present Polish health care units are obliged to actively compete based on free market rules. This forces the managers employed in these units to think in strategic categories. These rules should be based on balancing the objectives of their organisation for all the stakeholders.

The more the subjects of the public sector have to compete for clients and funds, the bigger the need for using balanced measurement of achievements in the public sector. Currently, the number of public sector subjects that are willing to receive limited funds from sponsors, benefactors, associations, foundations and governmental organizations is growing. Health care units have to introduce mechanisms for strategic management that will make it possible to survive and develop.

### **3. The BSC as an integrated IT system**

In the first place, to supplement the information about what the BSC is, this paper's author decided to present a project of such a card type. Although the author often presents similar projects in his articles, they are considered appropriate due to the fact that readers of the article are not always specialists in the field. Such graphs easily introduce the multifaceted character and sense of the balance between the BSC perspectives and the perspectives themselves, as well as what is measured by them.

Confronted with the board of a Low Silesian specialist hospital, the above-mentioned information allowed the author to build a modern and updated model of the BSC for a healthcare unit. Its balanced character is based on six perspectives; additionally, the following picture presents sample measures that the Low Silesian hospital is able to generate and that can be applied in the BSC perspectives given.



**Figure 1.** A BSC future project for the Polish hospital. *Source:* own study [8]

This type of scorecard is the future, because it also contains data related to environment protection and NFZ. The Health Department system very much resembles this type of card. Currently, NFZ demands quality to be monitored at the

hospitals. On the other hand, UE norms may impose environmental data to be monitored. Hospital units often do this on their own.

The multifaceted character of the BSC method allows for full control over the hospital's operations. In Poland, it can already be noticed that some health care units boasts the strategy they have and apply, or even their balance scorecard. Often, it is only a strategy based on this concept. Unfortunately, minor imperfections (for example, the period for updating the measures for key objectives – just once a year) lead us to conclude that these are only, at most, “dead” projects [1, 5, 7]. The author has in mind templates that exist on paper only and have never been property implemented. Indeed, “paper outlines” are a basis for implementing a concept. However, the BSC gains appropriate meaning only as a coherent IT system of the organization. We should not forget that it is an integrated management tool. The scope of measures and a template project are merely the first level. According to M. and A. Jabłoński, it is only the balanced scorecard that, as an integrated IT program, manages the value of the organization effectively and comprises the “true” concept, on the highest level that brings effects. By creating such a balance scorecard based on IT solutions, hospital managers will be able to precisely define strategic aims and basic factors that influence their execution [6].

In his publication in 2008, R. Lewandowski announced that using the BSC is quite costly and difficult to introduce with no developed IT systems. In order for indicators to help managers and staff take decisions, they have to be based on reliable data. Each applied indicator should be thought over well, because its preparation and monitoring takes time and organization's resources [4].

Many companies on the software market propose or are capable of creating a program that will function as a BSC for the hospital or other organization. In many cases, it means just the creation of the so-called washboard with the results that monitors the most popular indicators. Apart from that, these types of companies make the organization dependent of themselves, as without the work of their IT specialist the organization is unable to carry out any changes or interfere with the program.

There is a much simpler solution that has already been applied by R. Lewandowski, the manager of the rehabilitation hospital for children in Ameryka near Olsztynek. Between 2005 and 2006, Lewandowski appointed a project leader, and then internal trainings that presented the concept implemented were conducted for the staff at the hospital. During numerous meetings both within the group of key employees and the entire staff, the strategy was re-analysed and accepted. The management and key employees drafted the so-called organizational scorecard, and at the next stage teams in each organizational unit, together with the management and based on the BSC for the whole hospital, prepared the aims, measures and their values, as well as necessary initiatives for every organizational unit. Then, the card structure was introduced in the BSC module, and with SQL inquiries at the data warehouse that collects data from all hospital programs, values for all indicators are calculated.

#### **4. BSC proposal for a hospital and its limitations resulting from data sources**

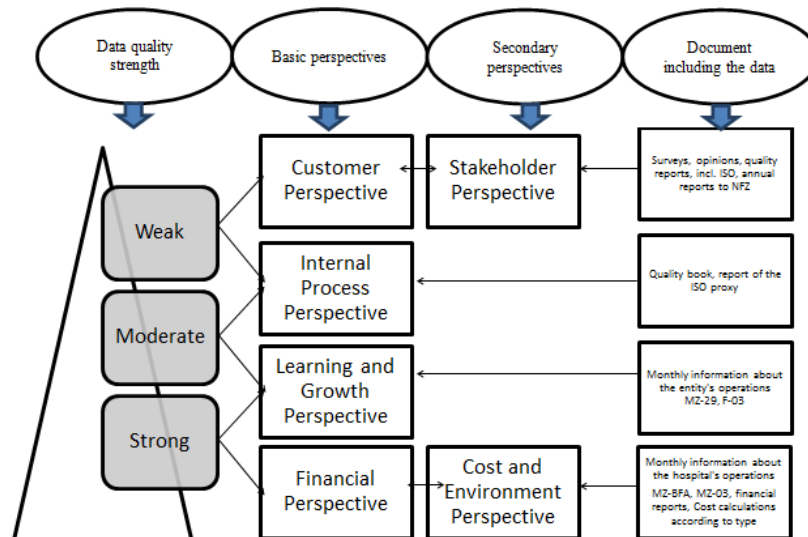
The author of this article carried out research trying to start academic cooperation with 140 hospitals in Poland. Only 20 positive and 7 negative replies were received. There were also 10 replies that are difficult to classify; at the beginning, they could have been considered positive, but finally the contact was lost. Obviously, a positive reply does not mean applying the BSC by the hospitals, but simply a willingness to cooperate. The results of the contact attempt were surprising. Hospital managers were often unaware of the documentation that their hospital is obliged to send to GUS or offices of the Ministry of Health. Strong disorganization was noticed in the entities and top managers lacked knowledge about which departments collect, for example, statistical and HR data, as well as handle settlements with NFZ. Of course, anyone who has not tried it in practice will claim that it is not possible, but for example the MZ-29 document (report on the general operations of a hospital) is drafted by statistical departments, though it can happen that it is done by hospital settlement department, even though the documents contains quite a lot of HR data. The F-03 document on the flow of capital assets is sometimes drafted by the financial department, and sometimes by the statistical department. Similarly, settlements with NFZ are not always created by the settlement department; the author is familiar with cases where it is handled by the department of methodology and organization.

Hospitals also possess a spectrum of internal documents that are very difficult to know anything of. For example, it can be monthly information about the entity's operations or a report of the quality proxy. These documents are not obligatory, and if they are, some of them provide interesting data.

Sometimes it is interesting to find out that several departments at one hospital reproduce the same data without even knowing about it and do not try to do anything about it. From time to time, the documents themselves also cause amazement. For example, MZ 88 contains HR data that considerably overlap with the data included in MZ 29.

MZ-03 and MZ BFA documents are also worth mentioning (they are also drafted in different departments) and are a counterpart of traditional financial reports prepared by the hospital's chief accountant. All three documents – MZ-03, BFA and financial report – include the same data, balance, income statement, costs by type. Interestingly, they contain completely different results due to the fact that they are drafted for totally different report days. In fact, all the documents mentioned are a copy of the obligatory financial report, although they differ as far as the structure of type or calculation costs are concerned. It is a wonder that marshal and statistical offices do not intend to unify and decrease the number of these reports because they add up a lot of work to the hospital's administration. According to the author and a few entities' managers, they add unnecessary work.

Based on one's own considerations and experience gathered during many visits to Polish hospitals, a diagram was drafted to present the current reality of how data function in hospitals. It is shown in Figure 2.



**Figure 2.** Strength of influence of source data on the BSC for a hospital

The diagram reflects the current situation of how data influence the structure of the BSC tool. What follows from it is that the data which can create the Financial Perspective are strong. This results from the obligatory character of financial reports. Yet, data from the Knowledge and Growth Perspective can be strong or moderate. HR and remuneration data, as well as indicators of staff exploitation are not obligatory. Nevertheless, there are several documents, including MZ029 or F-03, that provide access to non-financial measures. When combined with financial reports, they can serve to calculate further indicators, such as cost per patient, income per patient etc. The moderate level of the strength of data quality also has another perspective of Internal Processes. At this moment, considerable help should be provided by documents that present quality and progress of processes in the organization. Unfortunately, as practice often shows us, ISO standards are not appropriately designed. The ISO policy may be described, but nothing results from that, and the measures for its completion are only presented, and never consistently calculated or compared in time. There is a tendency to bend qualitative data. A similar tendency also occurs at companies, because no-one wants to boast about poor quality. Even hospital managements present different approaches to ISO. Many hospitals possess ISO and claim that it is a superfluous cost that means paying for a certificate that does not make any

difference. The situation can change because the interest and pressure on accreditations has been growing, and NFZ wants to reward hospitals that possess both certificates. Despite this, however, according to the author the quality, coherence and comparability of data is moderate, or sometimes poor, in practice. The worst area with a plethora of appropriate data is the patient area. Inconvenient survey results and patients' complaints tend to be rejected. The author has applied many times to NFZ offices at the Voivodship level to obtain the number of complaints hospitals receive and has never been sent one. At the hospitals themselves, it is extremely difficult to obtain such data. However, social and media opinion often reveals the entity's weakness in tragic moments, when the monitoring system should alert about at least minor mistakes that we can only assume are not rare. Supplementary perspectives are a consequence of the financial and patient perspectives. The final stakeholder perspective is often exaggerated, which is easy to explain. Further existence of the entity depends on the good results that will be presented to the fund or founder. This is why accountants, administration and quality staff sometimes work very creatively to present satisfactory results. It is obvious that if an entity wants to implement a BSC method that functions correctly, it has to improve the strength of quality of the data produced to the highest possible level. It has to define its strategy, make it compatible with the ISO policy and above all become critical of oneself. Good entities should not think only about survival, but also about crossing from point A to point B, in other words, about improving their operations and not concealing their imperfections.

It is sad that many coaches in management or IT sciences criticize the BSC method for reasons quoted above. The truth is that weak data quality is not the weakness of the method, but of the organization. Obviously it is difficult to measure the quality of a patient's satisfaction, and the satisfaction of the staff does not have to correlate with it. It does not mean, however, that measuring attempts should not be taken. Another problem appears here, caused not by the tool but by the man. Measures, indicators, variable data can be divided into inhibitors, stimulants, neutral variables, and if they are classified as KPI (that are supposed to have a rising tendency) without thinking, we will suffer a defeat. These data should be separated well and one should be able to read them. For example, in some cases the smallest possible value of financial liquidity is not recommended, because we achieve excess financial liquidity.

The last significant barrier for the BSC is the fossilized staff. In many organizations, there are people who have been working there even for over 30 years; even though they have experience, they tend to be against new solutions. It is not always a rule, as sometimes it is a problem of employees who have been working much shorter but got used to some solutions and do not want to change anything. For example, attempts as unifying ways of accounting in hospitals came



across great resistance. On the one hand, they blocked the accountants' creativity, and on the other, they damaged the habits developed over years.

At present, managerial control plays a crucial role at hospitals. Managerial control should prepare clear and lucid reports on the hospital's operations. As an integrated system of management, the balanced scorecard is very helpful in that. It is obvious that all staff cannot be changed to younger employees, but in departments such as controlling or managerial control one can definitely count on young personnel, educated in analytics and trained at least in the basics of SQL, for example by means of Excel MS Query.

The problems described result from the attempts at achieving data for analysis from hospitals and numerous visits to hospitals, contacts with the administration and management. These problems can be solved and it is not necessary to use external companies; it is sufficient to employ young, educated staff. It is achievable, as earlier postulated by R. Lewandowski in his publication. Using the BSC at his hospital made it possible to synchronize the operations of each department and key employees in order to follow the strategy. Also, the BSC allowed for the integration of tools previously used for quality management, such as ISO 9001:2000, Hospital Accreditation Program Centre for Monitoring Quality in Health Care and the HACCP system for food safety. The BSC also supports Total Quality Management (TQM), which is carried out according to the European Foundation for Quality Management model (EFQM) in the hospital in Ameryka near Olsztynek. None of the previously used reporting systems (e.g. measurable objectives within ISO) has generated so many various, and at the same time clearly and lucidly presented data or reflected all the facts important for the future development of the hospital. In their attempt to achieve better results in their indicators, employees follow the strategy, in some cases having doubts and not understanding it completely [4].

## **5. Conclusion**

Applying the BSC at hospitals is possible and seems to be appropriate. Already on the first level, the tool as a template is capable of ordering the hospital's operations. Further development makes it possible to pick up unnecessary tasks carried out by the hospital administration and integrate them into one coherent whole. The advantages of applying the BSC that were enumerated by R. Lewandowski confirm that using the method is reasonable. However, it is surprising to see the result achieved by the author of this paper when he tried to ask hospitals for cooperation and sharing hospital data for analysis. Unfortunately, organizational problems pointed out by the author that were solved by R. Lewandowski in his hospital still occur in many other, and big, entities. For this reason, the possibility of using the BSC solutions should be considered by the

founding and supervisory organs. Instead of requiring hospitals to provide many overlapping documents (used for bulletins with aggregated content for Voivodships), NFZ, Information Centre of the Ministry of Health, Voivodship Offices and Marshall Offices should organize an integrated system that would allow for easy collection of data, and at the same time monitor hospitals whose situation is difficult in many cases.

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