



Strategic performance measurement in a healthcare organisation: A multiple criteria approach based on balanced scorecard

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ABSTRACT

The Balanced Scorecard (BSC) methodology focuses on major critical issues of modern business organisations: the effective measurement of corporate performance and the evaluation of the successful implementation of corporate strategy. Despite the increased adoption of the BSC methodology by numerous business organisations during the last decade, limited case studies concern non-profit organisations (e.g. public sector, educational institutions, healthcare organisations, etc.). The main aim of this study is to present the development of a performance measurement system for public health care organisations, in the context of BSC methodology. The proposed approach considers the distinguished characteristics of the aforementioned sector (e.g. lack of competition, social character of organisations, etc.). The proposed measurement system contains the most important financial performance indicators, as well as non-financial performance indicators that are able to examine the quality of the provided services, the satisfaction of internal and external customers, the self-improvement system of the organisation and the ability of the organisation to adapt and change. These indicators play the role of Key Performance Indicators (KPIs), in the context of BSC methodology. The presented analysis is based on a MCDA approach, where the UTASTAR method is used in order to aggregate the marginal performance of KPIs. This approach is able to take into account the preferences of the management of the organisation regarding the achievement of the defined strategic objectives. The main results of the proposed approach refer to the evaluation of the overall scores for each one of the main dimensions of the BSC methodology (i.e. financial, customer, internal business process, and innovation-learning). These results are able to help the organisation to evaluate and revise its strategy, and generally to adopt modern management approaches in every day practise.

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1. Introduction

The Balanced Scorecard (BSC) approach is a strategic planning and management system that is used extensively in business and industry, government, and non-profit organisations worldwide to align business activities to the vision and strategy of the organisation, improve internal and external communications, and monitor organisation performance against strategic goals. It was originated by Robert Kaplan (Harvard Business School) and David Norton (Renaissance Solutions Inc.) as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more “balanced” view of organisational performance [1,2]. The BSC provides a framework that not only provides performance measurements, but also helps planners identify what should be done and measured, and thus enables executives to truly execute

their strategies [3]. Thus, BSC is mainly focused on two major problems of modern business organisations: the effective performance measurement and the evaluation of successful implementation of organisation's strategy.

In general, a BSC system is considered to be a performance measurement system, a strategy evaluation system, and a communication tool, at the same time [3,4], defined by the following four distinct perspectives:

1. Financial perspective (the tangible outcomes of the strategy using traditional financial terms, like economic value added, revenue growth, costs, profit margins, cash flow, net operating income, etc.).
2. Customer perspective (the value proposition that a business organisation adopts in order to satisfy its customers).
3. Internal Business perspective (the internal business processes that create and deliver the customer value proposition).
4. Learning & Growth perspective (the intangible assets of an organisation which refer to internal skills and capabilities that are necessary to support the value-creating internal processes).

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Recognising some of the weaknesses and vagueness of previous management approaches, the BSC approach provides a clear prescription as to what companies should measure in order to “balance” the financial perspective. As emphasised by several researchers, the BSC is not simply a measurement system; it is actually a management system that enables organisations to clarify their vision and strategy and translate them into action [5–7]. It provides feedback about both the internal business processes and external outcomes in order to continuously improve strategic performance and results. When fully deployed, the BSC transforms strategic planning from an academic exercise into the nerve centre of a business organisation.

The BSC has been widely applied in the private sector: the Gartner Group estimates that at least 50% of all Fortune 1000 companies are using the BSC methodology [8]. In the case of public or non-profit organisations, a BSC model should consider the particular characteristics of this sector, giving emphasis on mission and passion, while private sector tends to focus on profit and competition [9].

Although the BSC methodology has attracted a lot of attention and it is widely accepted by modern business organisations, there are several weak points of this approach [10]. The criticism refers to the nature of the BSC system that often appears too general and thus managers may have difficulties on how they can adapt it in the culture of their organisation [11], or the ability of quantitative measures to portray the various facets of a company's strategy [12]. Furthermore, a lot of researchers question the selection of these four distinct measurement dimensions, as well as the existence of a clear causal relationship among them [13,14]. Other researchers pinpoint that in real-world applications, the assessed performance indicators are not strongly related with the strategy of the organisation, and thus, they are not able to provide a clear orientation to management about what should be developed for the successful implementation of business strategy.

In the same context, public healthcare organisations are nowadays under increasing pressure to apply effective management tools. Although the BSC model may be considered as useful management approach, its application should take into account the non-profit nature of the social service sector. For example, Yeung and Connell [9] claim that the financial focus of the BSC conflicts with the mission-oriented nature of non-profits, while particular attention should be given when studying the intangible capital (human or intellectual) of such organisations.

Moreover, public health's focus on prevention and health promotion, often for entire populations, distinguishes it from many other areas of healthcare that are more patient and treatment focused. This is often a concern when assessing public health performance. While other health sectors are most often responsible for specific outcomes or services, public health works in an environment in which many factors, other than its own programs, simultaneously influence broad population outcomes. For example, measuring progress towards improving heart disease mortality is frequently seen as neither helpful nor appropriate as a public health performance measure because public health is accountable for only some factors related to this outcome. However, this issue does not significantly affect the success of a BSC because the framework does not aim to assess the effectiveness of specific programs. Rather it evaluates the alignment of goals, objectives, and strategies with structures, resources and activities, as well as the views and health of the community.

The main objective of the presented study is to develop a strategic performance measurement system using the BSC approach in a healthcare organisation. The developed BSC is able to provide management with an overarching view of the organisation's overall performance in relation to its goals. It does not focus on any specific aspect of the organisation, such as its

finances, but rather seeks to translate the organisation's strategic objectives into a coherent set of performance measures while minimising information overload. The scorecard provides a balanced view of the organisation and the benefits and risks of strategic and operational decisions.

The UTASTAR method is applied for the development of the performance measurement system. The UTASTAR algorithm [15,16] is used in order to rank a set of characteristic scenarios presenting different outcomes of the organisation's strategy. This ranking takes into account the preferences of the management and the UTASTAR method is able to provide overall and marginal evaluation scores for the defined set of performance criteria. It should be noted that a limited number of MCDA methods have been applied in BSC applications, although the multidimensional nature of the BSC approach justifies the implementation of such techniques. Furthermore, simple MCDA methods (e.g. weighted average) are preferred in order to have as simple as possible set of results. For these reasons, the application of the UTASTAR method for corporate strategy evaluation in the context of the BSC approach is the main contribution of the presented study. The advantage of the UTASTAR method is its ability to represent the preference system of the organisation's management with the minimum necessary information. Moreover, the method is able to provide a set of completed results (e.g. scores, weights, value functions, etc.), which may help the organisation to evaluate and revise its strategy.

This paper is organised into six sections. The implementation of the BSC approach in public and non-profit organisations and several previous studies applying MCDA methodologies are presented in Section 2. Section 3 presents the UTASTAR model, while the details of the real-world application are given in Section 4, including the presentation of the healthcare organisation and the assessment of the KPIs. Section 5 presents the development and the evaluation of strategy scenarios, as well as the results of the UTASTAR method (overall and marginal evaluation scores). Finally, Section 6 summarises some concluding remarks, and discusses potential extensions of the research.

2. Background

2.1. BSC in public and non-profit organisations

Worldwide, public and non-profit organisations play an important role as service providers. The social orientation of these organisations is the basic difference between profit and non-profit organisations, although extensive research has examined other similarities and dissimilarities (see for example [17]). These critical different reasons for their existence justify the fact that there is no profit motive in the non-profit sector, and thus no single indicator of performance comparable to business enterprise in bottom-line [18]. However, the similarities between the two sectors lead several researchers to argue that any management system that has been successfully applied to one sector may be tried in the other, taking into account its distinguished characteristics [9].

As a result, the primary objective of a non-profit performance management system is to determine how well an organisation is fulfilling its mission. This is emphasised by Kaplan [19] who argues that although the financial perspective provides a clear long-run objective in the private sector, it should be considered as a constraint rather than an objective in non-profit organisations. In simple words, he mentions that although these organisations must certainly monitor their spending and comply with financial budgets, their success cannot be measured by how closely they keep spending to budgeted amounts, or even if they restrain spending so that actual expenses are kept well below budgeted

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