Chapter 6

Dynamic Modeling of Balanced Scorecard:
In a Telecommunications Company

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ABSTRACT

This chapter aims to use system dynamic (SD) methodology for the implementation of a balanced scorecard (BSC) model in Tehran Telecommunication Company-Data Network. The value of this chapter at first is related to the application of SD in a BSC which overcomes the limitations of BSC such as ignoring time dimension and causal loop, lack of integration between strategic and operational levels, and wider view to consider competitors and supplier contributions. It provides a causal loop diagram of the system and dynamic modeling for each perspective of the BSC that can be applied for the purpose of policymaking. The chapter is based on a case study of Tehran Telecommunication Company-Data Network, which is a service-based company. Thus, it provides knowledge and information for academicians and practitioners of BSC and SD to implement SD based on a BSC in companies, especially service-based firms.

INTRODUCTION

Organizations measure performance to understand the way of performing a business and to let it to perform better. Improvement of organizational performance means serving customers, employees, owners, and stakeholders better (Johnson, 2007). The balanced scorecard (BSC) appeared to be used in translating their strategic objectives into a set of performance indicators (Weerasooriya, 2013). Different types of organizations, commercial and not-for-profit organizations, have used the BSC as a conceptual framework for performance measurement (Johnson, 2007). Thus, the organization needs an efficient model that focuses on strategic management, guides all elements of the organization in four perspectives: financial, customer, business processes, and growth and learning, aligned with the organization's vision, and examines the organization's performance in the present and future. This comprehensive model can be the BSC, which based on the methodology of system dynamics (SD), can simulate the future behavior of the organization with different scenarios and select better strategies for implementation.

In the current era, organizations face a lot of sophisticated and dynamic issues. Dynamic characteristic means changing over time, and related issues require continuous and dynamic management actions. In the area of strategic planning, dynamic issues are of a continuous and recurring nature. In other words, in these cases, the results of management actions are monitored and evaluated, and new measures are taken that will result in new results and actions and in this way, closed loops are formed. Feedback issues are the result of complex interactions between system variables. Since a BSC is an organizational excellence tool, it is essential to focus on this model to eliminate the degeneration of the organization and thus can lead to the organization's sustainable success. Besides, on account of the high status of strategy and decision making in the process of progress and organizational excellence, compliance of a BSC with the concepts of an SD becomes significant.

A BSC, which has become a popular concept for performance measurement, is one of the models that its subject and evaluations are based on the strategy and mission of the organization. A BSC is a management system used to translate the mission and strategy of an organization into measurable goals and criteria. This research is aimed at dynamic implementation of a BSC model in Tehran Telecommunication Company–Data Network. This section is an important part of the Telecommunication Organization, which is engaged in activities at a macro level from a technical point of view for the purpose of advancing goals, providing diverse services and improving quality. Due to the nature of the organization's technical nature and its activities, most of the projects and key indicators of the organization in achieving the goals have a high degree of dependence on this section.

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