Chapter 6
Model of Benchmarking for Development of Firm's Competitive Advantage to Improve Economic Growth in Cities

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ABSTRACT

The chapter deals with the problems of digital modeling and the study of the interaction of the companies competing within the framework of bench-marking process for working out the strategy of effective increasing competitiveness that is advantageous for the urban economic growth. The companies are considered in the organizational field, representing iterative aggregate system of a big order with a nonlinear feedback where the order is defined by the number of differential equations. The system is described by coupled Van Der Pol differential equations with random right parts and a time lag. The model is built on the example of the market interaction of the two largest retailer networks. The developed model shows the mechanism of competition of the companies' pairs which are suggested to be investigated within the framework of the bench-marking concept.

INTRODUCTION

The problem of managing the competitiveness of enterprises of various spheres of activity in recent years has acquired a national importance. On the day, no company can abandon its competitive positioning and the use of tools of analysis and management of competitiveness. One of the mechanisms of management of production-economic activity of enterprises is a comparative study, modeling and forecasting based on the principle of benchmarking. Under the benchmarking refers to the process of definition and adaptation of examples of the effective functioning of competitors with the aim of quality improvement of your own enterprise. Models and methods of decision-making for management of competitiveness in the process of benchmarking allow you to explore the advantages and disadvantages of competitors with the goal of developing and implementing an effective development strategy for the enterprise.

Unfortunately, to date, problems of competitiveness are often only considered from the industrial point of view, without affecting other areas. Modern views believe that the main role in ensuring competitiveness played by intangible assets and intellectual capital (Murtazin, 2011). However, this statement is not entirely consistent with the Russian reality in the market still has too weak information links between firms, weak innovation, still not quite prepared the legal basis (Andrianov, 2002). On the other hand, increasing the pressure of various factors, particularly the crisis phenomena in Russian companies leads to intense competition for market share between them. The majority of the companies pays little attention, and lead research in the field of decision-making strategy of the competitive development. One of the most effective mechanisms for managing aspects of production and economic activity of enterprises in various sectors of the economy is a comparative study of modeling, identification, understanding and adapting existing examples of effective functioning of the nearest competitive companies to improve their own work (Voronov, 2013).

Models and methods of decision-making for management of competitiveness of private enterprises in the process of comparative studies allow investigating the competitive advantages and disadvantages of closest competitors on the market, to develop and implement their competitive strategy and proactively manage it according to the changing situation. Competitiveness is a property of socio-economic systems (Gelvanovsky. 1998), as well as the nearest sphere of competition. The complexity of management of competitiveness consists in the fact that the decision-making process cannot proceed only from one or more of the factors influencing competitiveness. It needs to take them into account in the sum separately, defining the importance of each of them through mining or by expert method taking into account the requirement of data updating (Porter, 2002), as well as time and situational trends of the influence factors.

Another problem of competitiveness is the need to predict, and existing predictive models are not fully adequate and do not guarantee the correctness of the chosen management strategy. This is because lots of market competitors react to the same situation differently, what I should consider when making decisions. Therefore, when creating a methodology of decision support in this area it is advisable to use methods of scenario analysis (Rigland, 2008). These problems lead to the fact that management makes mistakes in the planning and implementation of measures to improve the efficiency of competitiveness management. In this regard, the task of development and implementation of methods of decision support for competitiveness management using the principles of benchmarking is an urgent research task in the modern market economic conditions.

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