

# Chapter 11

## Objective and Subjective Aspects of Decision-Making Support at the Meso-economic Level

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### ABSTRACT

*This chapter substantiates the importance of improving management effectiveness of mesoeconomic systems in current economic conditions and the features of mesoeconomy as a management object which defines the high complexity of decision making at the meso level. There are approaches, methods, and technologies which provide support of the decision making process via the integration of formal methods for objective data analysis and methods of accounting to solve semi-structured complex problems of mesoeconomy. A cognitive approach, and an approach involving the integration of the On-Line Analytical Processing and Data mining technologies with methods of a multi-criteria assessment of alternative, in particular methods of Multi-Attribute Utility Theory are considered in the chapter. Cognitive mapping of interaction between state and business in a mesoeconomic system are included as a case-study.*

### INTRODUCTION

Today evolutionary development of national economies in the global economic environment greatly depends on the level of management efficiency in meso-economic systems. This is due to the fact that the meso-level of the economy acts as a kind of an economic space center, the connecting element between individual economic entities of micro-level and a higher macroeconomic level of state or suprastate governance. On one hand, at the meso-level there is an opportunity to fully realize the systematic approach to management and to create effective institutional mechanisms enhancing economic development, but on the other hand to provide adaptation of the mechanism of management to tasks and features in the functioning of specific economic systems. Thus, firstly at the meso-level there is a possibility to transmit

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and implement managerial impulses of macro-level and through the stimulation of the formation and activation of certain economic ties and relations to achieve significant changes in the socio-economic development; and secondly, to adapt tools and institutes of development to the needs and the potential of concrete meso-economic systems, which are significantly different.

Together this allows considering meso-economies as a kind of development center which will create positive impulses that, in turn, will affect the entire hierarchical structure of the economy under condition of the effective management. Because of this and due to the binding of the economic potential to the specific areas and territories in the global economy, the formation of competitive advantages occurs mainly at the meso-level and the processes of globalization and regionalization or localization occur parallel.

The meso-economy is a complex, open, and dynamic socio-economic system. Thus, the specific features of meso-economic systems which are shown in the complexity of their structure, uncertainty, and unevenness of development, the inaccuracy of an assessment of parameters of such systems, differentiations of social and economic characteristics of components and subsystems, determines the complexity of making effective decisions in the managerial process. A significant number of tools have been developed in recent years to improve the efficiency of the decision-making process in economic systems of various levels.

However, in most cases the use of traditional tools of decision support at the meso-level is complicated either by insufficient data availability for analysis or the inability to rely only on objective indicators in managerial processes and so forth due to the importance to consider account the social (ecological/ethical/cultural) dimension of the development of meso-economic systems. Solving the problem of effectiveness of meso-economic management systems is possible through exploration of the targeted system and justification of decisions based on structuring of problems in complex and uncertain situations and the lack of statistical information about the current processes and phenomena.

This is possible by using methods and tools of neuroeconomics which allow encoding the subjective value of decision-making, determining the role of emotions in decision-making, investigating the interaction of emotional and rational mechanisms of decision-making, analyzing and modeling the basis of social and economic interaction and, thereby, overcoming the limitations of the classical economic theory and increasing the efficiency of decision-making processes at the meso-level.

This chapter focuses on explaining the approaches, methods, and technologies supporting management decisions at the meso-level of economy that take into account and integrate the objective and subjective aspects of managerial decision-making based on a combination of quantitative and qualitative procedures, including the analysis of possibilities of their application for the increase of management efficiency of meso-economic systems in modern economies.

## **BACKGROUND**

Over the past 10 years, meso-economic systems were deeply investigated by a number of research projects (e.g., Gorelova, Matveeva, & Nikitaeva, 2007; Kleiner, 2011; Kolesnikov, 2009; Wolfram, Torsten, & Henning, 2015; Ng, 1987). The term “meso-economics” dates back to the 1980s when several economists began to question a bridge between two main economic paradigms in the mainstream economics: micro- and macroeconomics. The term “meso-economics” has two meanings. First, it reflects the subject sphere of research – the part of a national economy located in economic space between the macro- and micro levels. This sphere includes branches, markets, regions, major cross-sectoral economic systems,

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