

# Chapter 7

## Developments in the Application of the General Systems Theory in Medium– Sized Enterprises: Empirical Evidence From Manufacturing Firms in the Republic of Serbia

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### **ABSTRACT**

*This chapter examines the use of laws, methods, and techniques of the systems theory in manufacturing medium-sized enterprises in Serbia. The specific context is looking at the use of this theory in a complex way by relating medium-sized enterprises to both small and large business entities in order to significantly contribute to economic development through dynamic business operations and strategic orientation of all businesses. The chapter consists of three parts. The first one presents the opportunities for application of the systems theory in manufacturing medium-sized enterprises, elaborates linkages for increasing competitiveness of medium-sized enterprises, significance of alliances, networking, and clustering. The second section contains the methodology and results of the empirical study. Analyzed and compared are companies of various sizes in terms of mutual cooperation, growth, and role of founders. Following the above described content, the chapter discussion proceeds with future research directions and a conclusion.*

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## INTRODUCTION

Over the last few years both the systems and complexity theories have become an increasingly examined topic in a variety of business settings. This field and phenomenon is currently gathering significant attention in both the public and private sectors. The systems theory is hereby interpreted as an approach to industrial relations which equates a medium-sized enterprise to an organism with interdependent parts, each with its own specific function and interrelated responsibilities.

By investigating systemic characteristics of select individual manufacturing medium-sized enterprises in Serbia, particularly their elements, structures and behaviors, the authors have explored numerous interrelationships between all of them. Moreover, the essential factors in their broader business and social environment must always be considered and evaluated as interdependent components of a total system of every medium-sized enterprise. This implies a convergent approach toward their external environment.

Conceptually therefore, objectives of the paper were approached through the concept proposed by authors as *An Opportunity of a Particular Business Size* where both SMEs and large enterprises are used to generate value, value generates growth and development, and which begets development of both entrepreneurship and intrapreneurship. It is also anticipated that additional insights can be found into the strategic management behavior of entrepreneurs and government enterprises but this remains for further explorations.

The results of this research clearly are expected to show that manufacturing medium-sized enterprises have their own characteristics and factors which drive development. In this development the systems theory approach could be helpful. Properly structured medium-sized enterprise means that it is in balance with its environment in long term perspective. This balance is achieved by implementation of complex managerial actions on two basic levels, such as: 1) negative feedback – self-regulation (by changing inputs in order to achieve given value at output), 2) adaptation (by changing parameters, algorithms, structures and finally, if necessary, by changing its objectives). On the other hand, if we take into account its dynamics, the issue of balanced relations with its environment could be very tricky. This is because of at least two major reasons. First one is related to the external processes in environment of the manufacturing medium-sized enterprises. These processes as well as environment as a whole are in ever changing mode. There are numerous processes in the environment that affect certain manufacturing medium-sized enterprises. In order to adapt its behavior a medium-sized enterprise should change its behavior mostly by changing its internal relations, structure and elements. The second reason is related to internal processes that are caused by growing and development of medium-sized enterprise. Usually, demands from the environment are not balanced with internal processes (i.e. short terms for products delivery) which exerts certain pressure on temporary structures. Changing relations, structures and elements because of external factors is something different if the reason for that originates from the demands of internal processes.

The findings of this research are expected to show that manufacturing medium-sized enterprises have specific characteristics which need to be treated apart from small and large ones. First, they are 'large' enough for not to be neglected by broader social environment meaning their potential contribution to the employment rate and local economic development as it happens with small enterprises (EC, 2016). Secondly, these enterprises play a significant role in both global supply and global value chains (Gereffi, 1995; Humphrey & Schmitz, 2000; IBM, 2008). At least these two reasons should put manufacturing medium-sized enterprises into the focus of every local as well as national government in creating develop-

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