

## **Summary of doctoral thesis**

### **“Role of balanced management in building operational excellence based on good practices in manufacturing”**

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Nowadays manufacturing enterprises work in the conditions of international competition and saturated markets, this forces them to continuously improve their products and operations. On the other hand, emerging concepts and methods of production management are very often fragmented and do not cover complexity of the manufacturing operations, which hinders enterprises to achieve long-term competitive advantage. Management focus on a selected aspect of the activities leads - over a longer period of time - to drop of the effectiveness in other areas of activity, which by given concept or method were not covered. Isolated management tools coming from various concepts do not provide a comprehensive look at the complexity of processes in manufacturing companies, where many of them occur simultaneously interacting with each other.

Therefore there is a cognitive gap and the need for research of balanced and holistic management concept that would offer integrated tools enabling to coordinate different areas of activities in companies and setting standards, monitor and improve operations. These issues are addressed in presented dissertation, which aims to develop a model of balanced management of operational activities in manufacturing companies, helping to monitor processes, stimulating continuous improvement and finally leading to operational excellence. This model was developed based on good practices in various areas of manufacturing.

While formulating the research problem specific questions were raised:

- Q1. How do managers of manufacturing enterprises cope with the complexity of the processes, and the need to coordinate them?
- Q2. What methods, techniques and tools are used to coordinate the complexity of operations and its improvement in successful manufacturing companies?
- Q3. What are the good practices in the pursuit of operational excellence, which can become a reference for other manufacturing entities?
- Q4. What are the results of manufacturing companies after balanced management is implemented?
- Q5. What factors determine the process of improving operations in manufacturing companies?

In order to reach the goal of this dissertation and find the answers to set questions four-steps research was conducted, namely:

- 1) studies of domestic and foreign literature as well as secondary research to identify good practices in manufacturing companies leading to operational excellence;
- 2) pilot study carried out in order to test the research questionnaire;
- 3) field studies using a case study. The study was conducted in eight production companies operating in various industries;
- 4) results analysis and definition of balanced management model supporting operational excellence based on good practices in manufacturing companies.

At the closure of the research conditions and limitations of the usage of the proposed model were identified, as well as potential directions of its development. This dissertation is therefore the theoretical and empirical, its structure includes five chapters and the summary.

The first chapter illustrates concept, origins and characteristics of industrial production. It also guides through the basic concepts of production management in accordance with their evolution, including the scientific and administrative management, behavioral and quantitative theory as well as a systems and situational approach. Achievements and limitations of each theory contributed to the idea of sustainable management are highlighted. The second chapter was devoted to the role of some modern concepts and management methods in industrial production. More detailed considerations were addressed to the concepts of lean manufacturing, total quality management and balanced scorecard, considered as key elements in the balanced management of manufacturing operations. The third chapter identifies and describes methods, techniques and tools focused on operations, it also explains the essence of operational excellence through balanced management. The decision to apply any of the tools should be based on maturity of the organization and chosen operational areas that it should cover.

The fourth chapter presents in detail the objectives, scope and methodology of the study and carries out the characteristics of selected production companies. It also presents the results of research defining areas of operations, together with a set of good practices in mass production. The fifth chapter is a synthesis of theoretical and empirical research. It proposes a model of balanced management on the reference of identified good practices in manufacturing and discusses the basic tools for promoting operational excellence. It also indicated steps of the implementation of this model and characteristics of its advantages and limitations, it also prospects for its further development. Dissertation ends with a summary, which contains conclusions, recommendations and the directions for further research.

Presented work with its scope fits to identity of management science, combining aspects of production management with the theory of organization and management. Its contribution to the current state of knowledge manifests in the development of a model of balanced management enhancing operational excellence in manufacturing companies. It consolidates good practices across production operations with complex coordination process. Dissertation, does not eliminate all the cognitive gaps, however, opens the way for further research.