

# HABILITATION THESIS

## RESEARCH IN THE PRODUCTION MANAGEMENT AND HUMAN RESOURCES MANAGEMENT IN ORGANIZATIONS

– ABSTRACT –

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The *Habilitation Thesis* represents a sum of my technical and managerial experience gained during my activity performed during 1989-2016 period and summarizes the results of my scientific research and teaching activities carried out at the "Petru Maior" University of Tîrgu Mureș after obtaining the PhD in Civil Engineering Engineer at the Technical University of Cluj-Napoca (September 1997).

Therefore, the thesis summarizes the main results obtained within the researches undertaken in the field of civil engineering that are approached from the point of view of engineering and management in construction. Also, the thesis presents the research results undertaken in the field of production management and human resources, research that was completed with the Master studies and the second title of PhD in Management at "Babeș-Bolyai" University of Cluj-Napoca.

The first chapter of the paper is entitled *Scientific Achievements* presenting the contributions in engineering and management, contributions which are grouped into three major research directions, each of them being analyzed in a separate subchapter.

Subchapter *1.1. Management of the construction units* highlights the research carried out in an important branch of the Romanian economy – construction, in terms of economic-financial and manpower involved. The results obtained due to the activity in the field of change management, management of production processes, human resource management, quality management and implementation of European legislation in the framework of the construction companies, have highlighted the growth and development of the construction branch recorded in the period under review, culminating in 2006-2009 when the growth in construction branch in Romania exceeded by 20% the average increase recorded in the E.U. However, the construction branch requires a better management by studying how to organize and rate the work in construction and looking for the possibilities for planning and programming in time the production processes by compliance with the requirements of minimizing the duration of execution of work and keeping costs at a low level in specific technical and organizational conditions. These conditions are determined mainly by the decrease of the number of employees, their high fluctuation, lack of

workforce on the labor market, especially the qualified labor, the dynamics of work processes technologization and working conditions in construction.

Subchapter 1.2. *A more efficient production using quality and human resources management* deals with the influence of quality management and human resource management on production efficiency in a well-known company in Romania, a national leader in the field of electrostatic painting. This topic has generated four areas of research.

The first area of research is focused on the production quality control in the field of electrostatic painting, analyzing the causes of non-conformities that might compromise the whole production process and quality control of the production process, finished products and their supply. The purpose of these studies was to establish the most important stages and critical quality indicators of the chemical treatment processes that influence the quality of the paint product and which can lead to nonconformities in production, the reason for which the research can represent a guide for those who work in the field of electrostatic painting.

The second area of research has been dedicated to cost optimization in the production process in the field of the electrostatic painting. The studies are dedicated to the possibility of obtaining chemical treatments more effective and lower costs, which has led to the need to redesign the processes components of the technological process of chemical treatment in order to decrease the costs of chemical treatment of waste water and protect the environment by recycling water from production spaces. These facts proved that the company has applied a responsible management in the field of production costs reduction and environmental protection, although the effort for the completion and implementation of these ideas was not negligible.

The third area of research was focused on the influence of quality instruments and human resources management on the production process in the field of electrostatic painting. The research analyzed the possibility to obtain an efficient production using the quality tools and human resources management, as well as the influence of the quality tools on increasing the efficiency of human resources in the production process. The studies performed have highlighted the close relationship between the quality tools and human resources management, how they influence each other, allowing the solving of various problems that appear within the company and to obtain positive results in terms of increased production capacity, the volume of products produced and implicitly its quality.

The fourth area of research is considering the issue of increasing the efficiency of human resources in the production process in the field of electrostatic painting. We have analyzed in the company several aspects that influences the human resources, quality circles, innovation and implementation of new work instructions by training human resources for increasing the efficiency of human resources in the production process. It highlights the importance of establishing the quality circle in a production company in order to solve some problems at the level of the quality of the technological process and which have led to an optimization of human and financial effort involved. It were also analyzed the methods and the ways to improve the production personnel by combining the production management with the human resources management in order to achieve positive results in terms of increased production capacity, the volume of products manufactured and implicitly their quality, motivating directly the executive staff, as an effect of the use and application of quality tools.

Subchapter 1.3. *Research on human resources management in organizations* aims to highlight the importance of investment in training and professional development, respectively the efficiency and effectiveness of training programs for human resources in organizations. The goal was to determine the impact of the projects for training the human resources on the economic indicators of an organization. The research undertaken has been developed on three main issues.

The first issue was focused on the study of aspects of human resources management related to the training programs of human resources and their efficiency, the need for measuring the effectiveness of human resource training programs and was followed by a research of the specialized literature in order to identify the main models for evaluating the training programs for human resources.

The second issue involved the necessity to develop a process of evaluation of the results obtained after finalizing a training program for human resources in an organization. The research has been materialized in two proposed models:

- ✓ *the Model of the evaluation of the programs for the training of human resources in organizations (MEPI)*, which was created to provide a methodology that gives the opportunity to highlight the effectiveness of training programs for human resources to the development of the organization;
- ✓ *the Model for estimating the efficiency of the training programs of human resources in organizations (MEEPI)*, which allows to obtain estimative information before organizing the training program.

The third issue has been materialized in the validation of the MEPI model proposed by its practical application in three organizations from the pharmaceutical industry, assessing the effectiveness of training programs from the field of quality management. These programs were organized both in the traditional system and in the e-learning system. This research have highlighted the advantages of using this model that allows to obtain useful information on the effectiveness of training programs. This information can be used to underlie the decisions of the management in the field of human resources.

The second chapter, *Professional and Academic Achievements*, is dedicated to the presentation of the most important scientific and educational achievements, highlighting the work in industry, teaching and scientific activity in higher education and the activities performed in the academic community.

The third chapter, *Plans for Evolution and Academic Development*, presents the plans related to my future evolution in the university career. The objectives presented are related to teaching and the research activity.

The Habilitation Thesis ends with the *References* section, which includes a list of bibliographical references used in the preparation of the Habilitation Thesis.