

PROFESSIONAL COMPETENCES MANAGEMENT AND ITS IMPLICATIONS ON ORGANIZATIONAL PERFORMANCE

(Managementul competențelor profesionale
și implicațiile sale asupra performanței organizaționale)

**A Thesis Submitted for obtaining the Scientific Title of PhD in Engineering
from**

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1. Summary of the doctoral thesis

The pandemic context of recent years, generated by the spread of Covid-19, has forced the business environment, including the industrial one, to rethink the way it operates, how to allocate resources and priorities objectives so that the level of organizational competitiveness remains the same. The pandemic has radically changed the working environment in most industries, shifting activity totally or largely into the virtual environment, and human resources have been/are at the heart of this change, as they need to reconsider and even redefine their skills, thus facilitating organizational re-design in the “two worlds”, the real and the virtual ones. As a result, it was categorically observed, the essential role played by Human Resources Management (HRM) specialists in this profoundly changing approach. Moreover, in performing organizations, the HRM plays a significant strategic role, proven during this period by the ability to develop and implement solutions for alternative working conditions, to impose an adequate response speed to legislative changes during the pandemic, but also post-pandemic crisis, as well as to support the capacity to adapt organizationally (including managerial and leadership) to the new economic and social conditions.

On the other hand, the HR processes supporting organizational performance have undergone transformations, with more emphasis than ever on skills development and capability creation. From a competency management perspective, organizational performance reverberates in areas such as: selection, recruitment of staff, career management, talent management, culture and organizational behaviour (El-Farr and Hosseingholizadeh, 2019; Apple, 2020).

The origins of professional competence management are located in the area of knowledge management and organizational psychology, which determines a holistic approach to the proposed theme (Alosaimi, 2018). The study of professional skills management becomes particularly interesting in the context of lifelong learning, as well as supporting the adaptation and development of human resources to the requirements imposed by the evolution of the organization. As a result, the development of professional skills is a permanent concern of managers, especially those of human resources. Recently, Gartner’s consultancy in its 2020 and 2021 publications (of interest to the topic), identified at least three major changes in the field of Human Resource Management (HRM) that are necessary for a successful organization:

1. Understanding the strategy and objectives of the business, as well as identifying the skills to ensure its success;
2. Business knowledge – there is a need for a thorough knowledge of the organization’s activity, of the products and services that make up the market portfolio, of how revenues are generated,

of the customers and of the competition, thus of the details that constitute the determinants of performance;

3. Transform the traditional role/function of the HRM of administrative-passive support into an administrative-active one, involving direct involvement in achieving strategic objectives, answering the question: *What does change mean for how we are motivated and working together and how we create value for our customers and employees?*

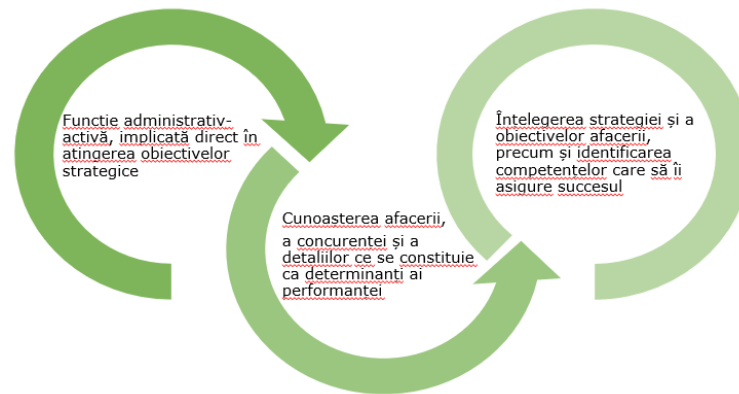


Fig. 1 HRM Changes Needed for a Successful Organization (original in Romanian language)

These changes or repositioning of the HRM function in organizations also took place amid concerns for the implementation of the most efficient management systems, such as the lean system (associated to the Toyota management system), with the main purpose of reducing costs, eliminating losses, waste and increasing organizational performance through the efficiency of its processes.

In Romania, the concepts of efficient production and the reduction of waste in enterprises, companies have been addressed in various studies and scientific articles. For example, the study conducted by Dascălu (2019) examined the implementation of the lean production concept in the wood processing industry in Romania, and the results showed a significant increase in operational efficiency and reduction of waste. Another study, carried out by Șerbănescu etc. (2021), examined the impact of adopting lean production practices in the metal processing industry, and there was a significant improvement in quality, reduction of processing time and costs. In the food industry (of interest in the context of conducting an important sequence of doctoral research), the concept of efficient production and waste reduction is important to reduce costs and improve operational performance.

In the majority, bibliographic research has demonstrated the efficiency and effectiveness of the system, lean management model in various industries, including Romania. It should be noted, ***however, that by going through the literature, no study has been identified on the food industry in Romania, related to the impact that the development of skills could have on the increase of organizational and managerial performance, which is a strong motivation for carrying out this research.***

From a personal perspective, the preoccupation with the topic of doctoral research was initiated with undergraduate and postgraduate studies in the field of Organizational Psychology and Leadership, as well as my professional experience of over 20 years in the field of HRM and, last but not least, of the leading role of implementing the Education and Training pillar for continuous improvement management, highlighted by the adoption of ***Total Productive Maintenance/Management, TPM,***¹ in several factories of a multinational company in the food

¹ According to the acceptance of this concept supported by the Japan Institute of Plant Maintenance, <https://tpm.jmac.co.jp/>

industry (see CV in Annex 14). Also, concerns for generating valuable results through scientific research have been a significant motivational element in successfully achieving the objectives of the doctoral program. Thus, we benefited from valuable scientific research opportunities throughout the doctoral program, internships and visits to other universities and involvement in various research projects.

The doctoral research “*Management of professional competences and its implications for organizational performance*” aimed at addressing the relationship between professional competence management and organizational performance (with specific reference to HR performance). In the broader context, the research theme has been explored interdisciplinary using methods and means in the field of competence based HRM (as part of HR strategic management) and organizational performance management.

The declared context of research is defined by the organizational environment and is broken down into two layers or research areas:

1. The educational and vocational organizational environment (related to international consortia) to identify the way of action and implementation of competence management in the case of a target group, by identifying the needs of training and skills development (case of groups of teachers, research, technical and administrative staff from higher education institutions);
2. The organizational business and industrial environment, where the analysis of technical and process skills will first and will be associated with the approach of defining and practical validation of the *Holistic Model of Professional Competences Development*.

The **research niche** of this thesis is the intersection of several fields of knowledge, as illustrated in Fig. 0.2 (presented in original, Romania language).

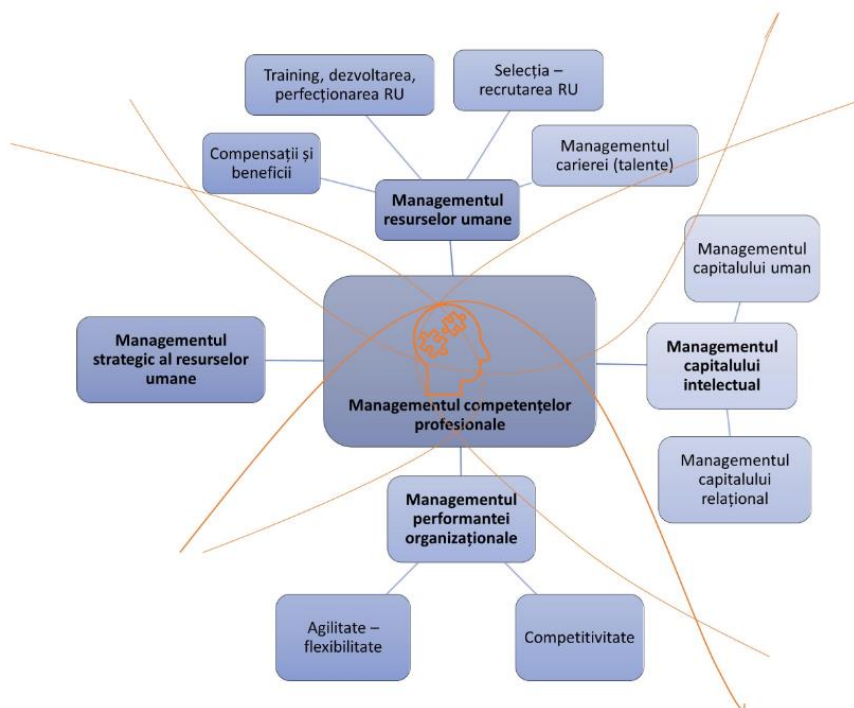


Fig. 2 Holistic Vision of Professional Skills Management
(original contribution developed in Romanian language)

The methods and means of research used, associated with the defined and implemented methodology, justify (best) the framing of doctoral research in the interdisciplinary area of the Ph.D. field Engineering and Management. Moreover, given the dynamics of recent years and the expected changes in the field of HRM, as well as the increased importance of the field of skills

management, the approach, development and solution of the research theme include the following steps:

- Research on the current bibliographic referential, to argue the role of developing professional skills in the practice of organizations, identifying some links in this field with current concerns of the HRM regarding the continuous development of the HR;
- Research on the bibliographic referential to define concepts and to carry out an analysis and synthesis of professional skills development models;
- Developing an applicative research scenario by identifying and selecting appropriate research methods and means, enabling the identification of skills and development programmes adapted to them on the educational-vocational level;
- Elaboration of an applicative research scenario by identifying and selecting appropriate research methods and means, allowing the conception of a *Holistic Model of Professional Competences Development (maybe based on a preliminary audit)*;
- Defining a methodology for applying the *Holistic Model of Professional Competences Development* with the definition of implementation phases and operations, their activities, with the definition of indicators that allow the analysis of correlation between HR competences and its performance. Within this stage is also defined the procedural framework for applying the *Holistic Model for the Professional Competences Development in Organizations*;
- Experimental research, conducted in real economy organizations with the purpose of testing and validating *the Holistic Model of Professional Competences Development* because of its application.

Thus, the working hypothesis of doctoral research considered that through professional competence management a direct connection with both strategic management of HR and organizational performance is established. While strategic management focuses on identifying HR development strategies to maximize competitive advantage based on unique organizational culture, capabilities and business goals, HRM typically focuses on aligning the company's strategic objectives with HR development, intellectual, human and relational capital.

The main objective of doctoral research is to conduct theoretical and experimental research for the conception, testing and validation of a Holistic Model of Professional Skills Development and allowing continuous control and monitoring of performance, in an organizational context, based on the assumption that the whole (system) is more than the sum of the individual parts. By focusing the managerial approach on the whole organization, as a system and not as a sum of parts or sub-systems, the aim is to achieve a synergy that supports organizational performance. Thus, synergy also becomes an essential component of the HRM.

Operationally, research focuses on addressing and solving the following issues (operational objectives):

- Identifying the place and role that professional competence development models (presented in the literature or practice of consulting and industrial organizations) have in defining the set of knowledge, skills and behaviors necessary for the HR in organizations to be competitive;
- Demonstrating the relationship, the correlation of competence management with the performance of the organization and supporting the implementation of its management strategy;
- Development, testing and validation of *a Holistic Model of Professional Competences Development* that allows identification of the set of necessary knowledge, skills and behaviors, in accordance with the needs of the business, to establish the HRM strategy and support organizational performance.

According to the main objective, the *key scientific research activities* aimed at achieving the main objective have been established, as follows:

- A1. Identification and systematization of the main theoretical-methodological approaches for defining the concept of competence management based on the investigation of existing works in the local and global literature;
- A2. Identification of the elements, component dimensions of competence management and skills development models;
- A3. Follow-up of global experience with skills development models;
- A4. Justifying the need to promote a skills management model and link it to the HRM strategy, as a possible mechanism for developing HR, supporting competitive advantage and organizational performance management;
- A5. Development of a *Holistic Model for the Development of Professional Competences*;
- A6. Highlighting the interdependencies between professional skills management and organizational performance in a knowledge-based society;
- A7. Applied research using innovative methods of developing professional skills (testing and validation of the method) in Romania;
- A8. Propose recommendations on skills development models;
- A9. Trying to empower scientists and managers (the main decision-makers) on the impact of professional skills management on organizational performance and increasing their competitiveness.

The structure of approach to the research theme and how to achieve the proposed objectives are outlined in Fig. 3 (developed and presented in Romanian language).



Fig. 3 The logic of approaching the PhD research
(original contribution developed in Romanian language)

The doctoral thesis totals over 240 pages (including the 15 annexes), containing an introductory chapter, 4 consistent chapters related to research issues and one final chapter that includes: conclusions, personal contributions and future research directions. Scientific discourse is

well looked at by figures and tables, as well as appropriate, recent bibliographic citations (the thesis contains a list of over 200 bibliographic titles consulted and quoted accordingly in the text). The way to achieve the main and operational objectives is demonstrated by the structure of the thesis and the content of each chapter of it.

The first chapter of the thesis, the ACTUAL STATED OF KNOWLEDGE OF PROFESSIONAL COMPETENCE MANAGEMENT, includes a set of bibliographic research aimed at bringing conceptual clarifications to professional skills, their role in organizations and skills management (based on the approaches present in the literature), emphasizing the praxiological importance of the concept of professional competence and its influence on organizational performance. Competence models are also summarized. The chapter includes an exhaustive list of competences as well as an overview of theoretical research on competence models. The chapter ends with a series of conclusions justifying the necessity of carrying out the theoretical and applicative research described in the following chapters of the thesis.

Chapter 2, THEORETICAL-APPLICATIVE RESEARCHES FOR THE CONCEPTION OF A MODE OF MANAGEMENT OF COMPETENCES ASSOCIATED A DEVELOPMENT-FORMATION PROGRAMME OF HUMAN RESOURCES (AT THE LEVEL OF A TARGET GROUP), is allocated to theoretical and applied research supporting the first contextual level of investigations: the educational, vocational environment (related to international consortia, of which the Politehnica University of Timisoara was part, and which had the role of implementing educational projects such as Erasmus+). The main objective of the research was to define a way of action of skills management related to the activity of meeting the training needs and their development for target groups consisting of teachers and technical-support and administrative staff of higher education institutions. Thus, two distinct cases are presented with two different research approaches, and then a generalized approach to establish the structure of a personalized training programme to a target group.

Chapters 3 and 4 support and demonstrate how to investigate skills management at level 2: the business, industrial, organizational environment, where the analysis of technical and process skills will first and will be associated with the approach of defining and practical validation of a *Holistic Model for the Development of Professional Skills*

Chapter 3, THEORETICAL RESEARCHES FOR THE CONCEPTION OF A MODE OF DEVELOPMENT OF COMPETENCE TO THE ORGANIZATIONAL LEVEL describes in detail the methodological approach designed and adopted by competence management, as anticipated by the description of the strategic HRM competency-based (HRMC).

Chapter 4, APPLICATIVE RESEARCHES FOR TESTING AND VALIDATION OF THE MODEL OF PROFESSIONAL COMPETENCES MANAGEMENT is dedicated to experimental research, presentation of the results obtained (conclusions and their interpretation). An original contribution made by theoretical research was the creation of its own model of skills development in the production sector in a multinational society that promotes the management of continuous improvement and the identification of the existing relationship between skills development and organizational performance.

Chapter 5, entitled CONCLUSIONS. PERSONAL CONTRIBUTIONS. FUTURE STUDIES, presents the conclusions of the bibliographic research, of the theoretical and applied research carried out, the original contributions claimed and justified by the original approach adopted and implemented and the results obtained. Research directions with potential for further development are also presented.

The research carried out and the results obtained within the doctoral program were capitalized in a rich dissemination activity through a total of **21 scientific articles**. These have been published in journals and volumes of international events in the country and abroad, indexed in international databases, as presented in Annex 15 of the doctoral thesis.

2. Conclusions of the research. Original contributions

a) *General conclusions of the research carried out:*

Through their content, the research conducted has demonstrated a level of interdisciplinarity, highly multidisciplinary, which is specific to the investigations carried out in the complex space of Engineering and Management. At the same time, from the methodological perspective, the thesis includes bibliographic research, in the field of HRM combined with skills management, strategic and organizational performance, which was possible by combining (successive, parallel or mixed) knowledge, approaches, methods and means specific to the socio-human and technical field, engineering.

Following ***bibliographic research***, the following general conclusions can be drawn:

- The research topic approached (and solved) is of great relevance not only from a scientific perspective, but especially from a praxiological perspective, being present and quoted in research approaches, studies and normative provisions developed by prestigious organizations in the field. The analysis and synthesis of the scientific literature was carried out in parallel with the follow-up and identification of reports, analyses from the “grey literature”, especially of the studies of consulting companies and prestigious world organizations;
- Addressing competence frameworks and their development models cannot neglect the overall organizational context and the HRM, as well as the stated objectives and the HRM strategy (as part of the organization’s overall strategy);
- The approach to skills development models should consider the strategic vision and, at the same time, that of organizational performance management. Lean management approach, continuous improvement can potentiate and facilitate the creation of skills development models perfectly adapted to the organization and can enhance the professionalization of HRM practices in the post-pandemic context. Thus, there is a need to redefine organizational culture by integrating and increasing concerns for lifelong learning;
- The “Total Performance Management” approach from the perspective of increasing human capability must be achieved through the involvement of organizational levels and restore the hierarchical dispositions in a holocratic structure;
- Strategic HRM should consider integrating competences, their development and continuous assessment into all HR processes to create human and intellectual capability at the organizational level.

Following ***theoretical and applicative research***, the following were concluded:

- Researches for the design of a competence management model associated with a HR development-training program (at the level of a target group) described in chapter 2 of the thesis have highlighted rigorous scientific approaches in skills management, innovative methodologies that have resorted to the use of various methods and means, but adapted to the given research context. It is noted that the adoption of skills management in the framework of the definition of a HR development-training programme highlighted as the main benefits: improve the performance of programme creators/trainers, develop high-quality training programmes and curriculums (represented in the form of skills cards). The two research approaches carried out and presented were aimed at demonstrating the concrete way in which competence management is carried out, efficiently and effectively, in the case of the design and design, on a scientific basis, of HR development-training programmes (at the level of a target group). Finally, the two research projects and contexts, MUST and RestpectNET, represent two best practices described by concrete and well-defined efforts to improve the capacities of academic institutions in defining and implementing educational processes based on competence management. Furthermore, the studies presented analyze and describe in detail the scientific approach of the development of skills matrices and cards in vocational-educational context, providing concrete and practical examples of application, highlighting its benefits and effectiveness in developing and improving HR skills. They can therefore be used

as a source of inspiration and guidance for other professionals and organizations who wish to develop HR development-training programmes and improve their employees' skills;

- Theoretical research for the design of a skills development model at organizational level (chapter 3) highlighted the concrete way in which a competence model can be generated and defined the methodology for its application. Subsequently, applicative research (Chapter 4) led to the testing and validation of the proposed model, created and implemented in the case of an organization in the real economy (the NWW organization). Thus, the applicative research provided not only methodological frameworks of action in HRMC, but also implementation solutions, guidance of HRM specialists to professionalize their mode of action, and through the possibility of using tools, means of work created. At the same time, research within the RTM organization extends the methodological approach initially presented (chapter 3) in the management competences and leadership fields, providing a complete toolkit for HRMC, in this case (methods, means, working methodology, tested and validated)
- Theoretical-applicative research has addressed real problems and provided well-founded solutions, their impact contributing to the increase of the performance of the HRM, the various activities components thereof, but also the increase in the performance of the processes (production or management) of the organization, thanks to the adoption of a new approach to HR through its competences.

b) Original contributions claimed as a result of research:

- a. Extensive bibliographical analyses and summaries, based on current resources on the development of HRMC as part of an organization's strategic management and on the role of skills development models in supporting business strategy and performance goals, in particular;
- b. Carrying out a bibliographic analysis and synthesis on skills development models;
- c. Identification and characterization of the research breach (as an uninvestigated or unsubstantiated field from a scientific point of view) based on the conclusions of the bibliographical research. Thus, although there are a significant number of publications in the literature, studies on skill models, implementation methodologies are limited to certain categories of professions or industries and do not sufficiently reflect the contribution to supporting organizational performance. As a result of identifying the methodological gap, the design of integrated methodologies to be adopted in the strategic HRMC was used;
- d. Illustration, highlighting the interdisciplinarity of the research theme through the arsenal of methods and means used, combined in defining methodological approaches;
- e. Results of applied research adored to perform *in situ* research within two companies operating in different industries, with validation of the model theoretically & applicative proposed, but also its extension. The research was carried out in the pre-pandemic period, but also during the Covid-19 pandemic, in a unique research context in view of the challenges posed by health restrictions imposed at national level;
- f. Creative methodological developments, the models proposed for competences management (2 steps presented in Chapter 2 for 2 international contexts at the level of collaborative creation of training programs and 2 approaches at the level of 2 organizations, in chapter 4) are the result of innovation through combination.
- g. The results of validations through applied research of the competences management models, on the two levels of vocational-educational and organizational.

c) Potential future research directions

The following research strands with the potential to be addressed in the future have been identified:

- Pedantic analysis of research boundaries and attempting to eliminate them and refine the method and model proposed in the thesis;
- Studying the possibility of creating an integrated IT solution (platforms) allowing for more accessible monitoring and providing the possibility of objective self-assessment;
- The development of learning materials, organized in the form of a ready to use 'kit' for each competence identified, correlated with the shortcomings to be addressed and the degree of development required for the performance of the post/role;
- Developing a methodology to address the closure of skills gaps in situations of non-compliances in the Development Plan;
- The generalization of the developed and validated framework methodology, of the competences management system, from the production, industrial environment that can be replicated in any other companies and other industries.

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