

**ACADEMIA DE STUDII ECONOMICE DIN BUCUREȘTI**  
Școala doctorală de Administrarea Afacerilor



**THE DOCTORAL THESIS**  
**SUMMARY**

**DEVELOPMENT OF AN EVALUATION AND MONITORING  
MODEL OF PERFORMANCE GENERATED BY INNOVATION  
IN THE FIELD OF FOOD PRODUCTION**

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**ACADEMIA DE STUDII ECONOMICE DIN BUCUREȘTI**

**Consiliul pentru Studii Universitare de Doctorat**  
*Școala Doctorală de Administrarea Afacerilor*

**DEVELOPMENT OF AN EVALUATION AND MONITORING  
MODEL OF PERFORMANCE GENERATED BY  
INNOVATION IN THE FIELD OF FOOD PRODUCTION  
- SUMMARY -**

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**București, 2024**

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## Summary

The doctoral thesis presents a model for evaluating and monitoring performance generated by innovation in the field of food production, starting from the main aspects related to innovation, design, business performance and innovation management. It is structured in two parts, a theoretical one in which the current state of scientific development is captured and a practical one in which personal contributions are included. The first three chapters detail the theoretical aspects related to increasing business performance through innovation and design, performance indicators with an emphasis on measuring the impact of innovations and methods of measuring innovations. In the second part, the actual research part, starting with the fourth chapter, several types of research are detailed, starting with the analysis of microdata from the INS studies on innovation in the food field, at the national level, followed by exploratory research carried out on food organizations in Romania, comparative and SWOT analysis for innovation management, with the aim of highlighting how innovation is defined in companies, how it is managed, implemented and measured. One of the challenges that this paper was able to answer was determining the direct causality between the organization-wide quantifiable results from innovations and the organization's financial results. The model offered for evaluating the impact of innovations in business development, can be successfully used in food production organizations, as we have shown in the application of the model in the last chapter. Among the novelties highlighted in this paper are the performance indicators used in the evaluation model, more precisely the alignment to a convenient definition for innovations, the definition of the innovation rate and the way of calculating the benchmark values for the innovation rate. The results obtained from the carried out researches significantly contribute to the understanding of how we can define, generate, manage and measure innovations in food organizations, regardless of their size. The adoption of this model allows food organizations to improve their results in terms of innovation performance and implicitly business development.

**Keywords:** innovation; innovation management; measuring the impact of innovations; organizational performance; competitiveness; business excellence; sustainable development.

## THE DOCTORAL THESIS SUMMARY

The doctoral thesis, entitled "**DEVELOPMENT OF AN EVALUATION AND MONITORING MODEL OF PERFORMANCE GENERATED BY INNOVATION IN THE FIELD OF FOOD PRODUCTION**", is the result of the research carried out during the three years of the doctoral studies, under the coordination of Prof. Univ. Dr. Rodica PAMFILIE, as the main scientific leader, in co-supervision with Prof. Univ. Dr. Cristinel VASILIU, as well as the guidance from Prof. Univ. Dr. Roxana PROCOPIE, Conf. Univ. Dr. Mihaela BUCUR and Lect. Univ. Dr. Robert BUMBAC.

The doctoral thesis deals, during 254 pages and seven chapters, with essential aspects related to the concepts of innovation, design, business performance and methods of measuring the impact of innovations in business development. The work includes 41 tables and 58 figures, and the presented selective bibliography includes 225 bibliographic references from international scientific literature, reports, guides and articles. The doctoral thesis comprises an introduction, seven chapters, along with propositions, conclusions, bibliography, lists of tables and figures, as well as four appendices.

The doctoral thesis presents a model for evaluating and monitoring performance generated by innovation in the field of food production, starting from the main aspects related to innovation, design, business performance and innovation management. It is structured in two parts, a theoretical one in which the current state of scientific development is captured and a practical one in which personal contributions are included. The first three chapters detail the theoretical aspects related to increasing business performance through innovation and design, performance indicators with an emphasis on measuring the impact of innovations and methods of measuring innovations.

**Chapter I** provides a broad overview of the notions of innovation and design in the literature, along with aspects of how innovation can generate business development and economic growth. It is described how design contributes to the differentiation of business approaches in the market, providing distinctive images to the products and the brands that market them. In the first chapter, there are aspects that contribute to providing an overview of how innovation and design complement each other to provide organizations with a clear vision for the development strategy through innovation, through the following elements: (1) innovation is a determining factor in the development of organizations and in economic growth, a fact confirmed by the evolution of innovative companies in periods of crisis and from the last

period, marked by polycrisis; (2) the way of obtaining innovations detailing the open innovation model, is detailed alongside the main classifications that divide innovations into several categories including product, process, radical, incremental, technological, cultural, etc.; (3) design, is positioned at the center of the development of innovations, reflects the values and culture of companies and can determine a better experience for consumers; (4) design contributes significantly to the creation of a brand identity and can make a significant contribution to business strategy and management.

**Chapter II** highlights performance indicators for measuring the impact of innovation in business organisations alongside methods of managing and developing businesses through innovation and design. It provides a vision on the development of business approaches through innovation, offering a representation of the innovation management process and methods of measuring business development indicators as well as the impact generated by business innovations, by identifying the following aspects: (1) the factors that contributes positively to business development and innovation management in organizations; (2) innovation-oriented strategies that involve new approaches to obtaining competitive advantages; (3) details related to the measurement of business growth indicators, innovation evaluation models and performance management models based on strategic objectives and key results; (4) details related to performance indicators for evaluating the impact of innovation on business development.

**Chapter III** approaches innovation through its representation models, providing essential benchmarks in the innovation process and in its effective management. At the same time, it aims to evaluate the impact generated by innovations in business, offering tools and measurement methods that can help organizations in the process of monitoring and improving development performance. Chapter III also contains the main typologies of innovations and their representation models, depending on the level in the organization where they are implemented, the way they are developed (with existing resources or with new resources) or the impact they have on the market, by the following ideas: (1) there can be routine, consolidation, growth or breakthrough innovations, depending on the degree of novelty or the degree of market acceptance, depending on how the innovations complement the product portfolio, they can be incremental innovations or radical innovations, and all must successfully complement the existing offer in the organization; (2) the innovation-oriented business model, with an emphasis on the launch of new products alongside the innovation strategy and continuous learning are essential aspects of the innovation cycle; (3) innovation management is complemented by human resources management, in order to obtain business models with an



emphasis on the generation of value for the organization, through innovation; (4) the analysis of the way innovation is measured at the European level, by presenting the scoreboard of European innovation, and by presenting the classification offered by the innovation performance of each country; (5) evaluation of input, output indicators and process indicators for measuring the results of innovation in organizations.

In the second part, the actual research part, starting with the fourth chapter, several types of research are detailed, starting with the analysis of microdata from the INS studies on innovation in the food field, at the national level, followed by exploratory research carried out on food organizations in Romania, comparative and SWOT analysis for innovation management, with the aim of highlighting how innovation is defined in companies, how it is managed, implemented and measured.

**Chapter IV** provides an overview of the Romanian food industry and identifies effective innovation models suitable for food businesses. It captures the importance of innovation in the development of companies in the food industry, offering an innovation management model transposed from the innovation standards and details aspects related to innovation in the field of food production in Romania, with a review of the particularities related to the food industry through the development of the following directions: (1) reviewing the main information related to the Romanian food industry and the increased importance of innovation and sustainability in the last period; (2) detailing the right models for food innovation and information on open innovation in food with the presentation of the flow for launching new products; (3) present the management of innovation in the food industry in accordance with innovation standards; (4) provides insights into the importance of organizational culture in managing food innovations.

**Chapter V** provides the detailed analysis of national innovation databases, providing a classification of companies by size classes and sectors of activity. For a better understanding of how to manage innovations in the food field, the microdata related to the Romanian food industry are analyzed and the factors that positively influence the development of enterprises are highlighted. The following researches and studies are detailed: (1) analysis of Tempo bases available for innovation in Romanian companies and researches carried out at the national level regarding the share of innovative enterprises in total enterprises; (2) presents the ways of classifying innovative companies along with an analysis of product innovators in total successful innovators and the analysis of cooperation with other partners; (3) the study of the series of statistical microdata originating from innovation was carried out by means of statistical methods of analysis with the verification of research hypotheses and with the main

conclusions, that in Romanian companies, in the food industry, incremental innovation is more important than radical innovation, enterprises from the food industry has a weaker performance with new products than the industry average and the year with the best innovation results for Romania was 2018; (4) the microdata analysis provided an average value of 12.1% of the innovation rate in the food industry and validated the hypothesis that companies with more than 250 employees are more innovative with an innovation rate higher than the industry average (13.55%); (5) highlighting important aspects for the development of the food industry.

**Chapter VI** presents the exploratory research carried out on food organizations in Romania, to find out aspects related to how innovation is defined in companies, how it is managed, implemented and measured, providing additional information related to the following aspects: (1) how innovation is defined and issues related to innovation management in organizations; (2) SWOT analysis for innovation in food organizations, highlighting the opportunities for the development of companies through innovation; (3) the research hypothesis was verified that organizations that implement standards are more oriented towards sustainability and innovation than those that do not use standards in their work; (4) comparative analysis between large and small and medium-sized companies highlighting similarities and differences in innovation management; (5) the centralization of recommendations aimed at the management of innovations in the food industry, in Romania.

**Chapter VII** represents a centralization of the results obtained in the previous chapters, presents the aspects to be taken into account for detailing the evaluation and monitoring model, along with the stages of the innovation process, and provides a description of the evaluation and monitoring model of the performance generated by innovation in the field of production of food, model validated in a Romanian food business, detailed in the following sections: (1) the definition of new products in the food industry was possible, following the research carried out, in conjunction with the way in which the food market is structured and with trends in information technology, embodied in "the product launched on the market for a period of 2 years from the moment of launch"; (2) detailing the main stages of the innovation process in food production and presenting the ideation process; (3) the presentation of the model with all the essential activities for obtaining the best results, with the presentation of the performance indicators, with the recommendations regarding the frequency of the measurement activities and the detailed calculation method of the innovation rate together with the recommended calculation method for the calculation of the benchmark for the indicators which only uses the organization's data; (4) presents the implementation of the model in a representative category of a producer in the food industry, with a positive development in the last period, for which the

impact of innovative activities was analyzed over a period of five years. The evolution of the sales value of the category and the evolution of the innovation rate confirm the impact of innovation activities in the development of the category. The benchmark calculation for the innovation rate in the category led us to a value of 11.65%, far above expectations and in line with the value obtained for the food industry in the previous chapter.

One of the challenges that this paper was able to answer was determining the direct causality between the organization-wide quantifiable results from innovations and the organization's financial results. The model offered for evaluating the impact of innovations in business development, can be successfully used in food production organizations, as we have shown in the application of the model in the last chapter. **The results** obtained from the research carried out contributed significantly to the understanding of how can we define, generate, manage and measure innovations in food business, regardless of the size of the organization and to the realization of the model for monitoring and measuring the impact of innovation. Adopting this model for evaluating and monitoring innovations allows food organizations to improve their results in terms of innovation performance and implicitly the development of market segments or even businesses. One of the results obtained in the application of the model, highlighted an organic growth of the category analyzed without innovations of 14.9%, in five years, compared to 46.9% growth of the same category with the contribution of innovations. Regarding the limits of the research, we believe that this research can be extended by implementing the model and other organizations in other fields at the national level.

Among the novelties highlighted in this paper are the performance indicators used in the evaluation model, more precisely the alignment to a convenient definition for innovations, the definition of the innovation rate and the way of calculating the benchmark values for the innovation rate. The results obtained from the carried out researches significantly contribute to the understanding of how we can define, generate, manage and measure innovations in food organizations, regardless of their size. The adoption of this model allows food organizations to improve their results in terms of innovation performance and implicitly business development.

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