**REVIEW** 



on a dissertation for obtaining the educational and scientific degree "Doctor" in the field of higher education 3. Social, economic, and legal sciences; professional field 3.8. Economics, scientific specialty Economics, and Management

<u>Author of the dissertation</u>: MIRKO MILANOVICH doctoral student (part-time) at the Department of economics at the Agricultural University, Plovdiv

<u>Dissertation topic</u>: MANAGEMENT OF INNOVATIONS IN THE AGRICULTURAL HOLDINGS IN THE REPUBLIC OF SERBIA

<u>Reviewer:</u> Prof. Dr. Ivan Dimitrov Penov, Agricultural University-Plovdiv, Department of Economics; the field of higher education 3. Social, economic, and legal sciences; professional field 3.8. Economics; scientific specialty Economics and Management, appointed a member of the scientific jury by order № RD-1078 / 25.11. 2020 by the Rector of Agricultural University.

### 1. Brief introduction of the candidate

The doctoral student Mirko Milanović was born on February 11, 1978. In 2005 he graduated in law (Bachelor) at the University of Belgrade, Faculty of Law, and in 2016, Business Economics and Entrepreneurship (Master's degree), Higher School of Business Economics and Entrepreneurship - Belgrade, Faculty of Business Economics and Entrepreneurship. Since April 2019, he has been enrolled as a part-time doctoral student at the Department of Economics, Agricultural University - Plovdiv.

He has worked for the Travel Agency "VIVA", Belgrade, as a Director, from 2003 until today and "DELTA GENERALI OSIGURANJE" - Joint-Stock Insurance Company, Belgrade as an insurance agent from 2006 to 2011.

### 2. Relevance of the problem

The agricultural sector in Serbia is important for the national economy. It accounts for 12% of GDP, 21% of the labor force, and 9.4% of the country's exports. The registered agricultural holdings are 631 552 and cultivate over 3 million hectares. Family farms represent 99% of the total number of agricultural enterprises and cultivate 82% of the utilized agricultural land. In the last decades, the introduction of new technologies has been crucial for the competitiveness and the growth of economic systems. In this regard, the topic of the dissertation "Innovation Management in Agricultural Holdings of the Republic of Serbia" is relevant for both theory and practice.

# 3. Goal, tasks, hypotheses, and research methods

**The goal** is to analyze the impact of innovation and product quality on the sustainable success of family farms in the Republic of Serbia.

The main subject of the dissertation is the innovations and the quality of the agricultural products

The object of the dissertation is the family farms in the Republic of Serbia.

Tasks: (1) To determine whether the level of innovation of agricultural products has a significant impact on the level of quality; (2) To determine whether the level of innovation of agricultural products has a significant impact on the level of sustainable success of individual family farms; (3) To determine whether the level of quality of agricultural products has a significant impact on the level of innovation of agricultural products; (4) To determine whether the level of quality of agricultural products has a significant impact on the level of sustainable success of individual family farms; (5) To determine whether the level of innovation and the quality of agricultural products significantly affect the sustainable success of individual family farms.

Hypotheses: Main hypothesis: The level of innovation and quality of agricultural products has a significant impact on the level of sustainable success of individual family farms. Working hypotheses: (1) The level of innovation of agricultural products has a significant impact on the level of quality of agricultural products; (2) The level of innovation of agricultural products has a significant impact on the level of sustainable

success of individual family farms; (3) The level of quality of agricultural products has a significant impact on the level of innovation of agricultural products; (4) The level of quality of agricultural products significantly affects the level of sustainable success of individual family farms.

Data and survey period: The data were collected using a questionnaire in the period from 1 July to 1 September 2018. The sample includes 60 experts from the Republic of Serbia (university professors, employees in public administrations as agricultural advisers, employees employed in institutes, relevant to the field of research)

**Research methods:** literature review, factor analysis correlation analysis; regression analysis.

# 4. Visualization and presentation of the obtained results

The dissertation is in a volume of 191 pages of which: Introduction - 8 pages; theoretical part - 26 pages; methodology - 39 pages; analytical part - 98 pages; conclusions and recommendations - 6 pages; literature - 4 pages; applications - 6 pages. The text includes 209 tables, 31 figures, and 35 diagrams. 51 literature sources were used. The dissertation is well structured and includes all the necessary elements.

### 5. Discussion of the results and used literature

The dissertation is structured in six parts, introduction, three chapters, discussion and conclusions, and recommendations. The introduction presents, the relevance of the problem; the purpose and stages of the work; the subject and object of the research; the main thesis, and research methods.

The second part is theoretical. It clarifies the essence of innovation. The different types of innovations and the peculiarities of innovations in agriculture are considered. The condition of the agricultural holdings in the Republic of Serbia is presented. The importance of quality and sustainable growth is discussed.

The third part discusses the research methodology. The impact of innovation and the quality of agricultural products on the sustainable success of individual family farms in the Republic of Serbia was discussed. A theoretical model of these connections is derived and the working hypotheses are formulated. The answers of the experts to the questions in the field of innovation and quality are presented.

The fourth part is analytical. A preliminary evaluation of the reliability of the theoretical model was first performed. The influence of the factors was re-evaluated with the help of factor analysis. The profiles of the respondents are presented. New models for the connection between the innovations, the quality of the production, and sustainable development are developed and evaluated.

In the fifth part, a discussion is made about the significance of the models, and in the sixth part, the conclusions and recommendations are presented. The conclusions and recommendations follow from the research.

### 6. Contributions to the dissertation

I accept the scientific and scientific-applied contributions indicated in the work. **Scientific contributions**: (1) Based on a literature review, a theoretical model for the role of innovation in agriculture is proposed; (2) The model is tested and adapted with the data collected.

**Scientific and applied contributions:** (1) A methodology for researching and analyzing innovations and their impact on the sustainable success of agricultural holdings is proposed; (2) Proposals for improvement of the sustainable development of the agricultural holdings in the Republic of Serbia have been presented.

# 7. Critical remarks and questions

I have the following critical remarks on the presented work:

 In the methodical part the points: 3.2. Expert answers to questions raised in the field of innovation; 3.3. Expert answers to questions in the field of quality.
 In my opinion, this is a part of the empirical research, not part of the methodology. The methodology usually presents the theoretical model, how the information was collected, the number of sent questionnaires, the number of respondents, etc.

The descriptive statistics of the answers to the questions could be better
presented in two or three tables, instead of each question to be given in a
separate table. This would tighten the text and make it possible to see better
the differences in the answers to the questions.

I have the following questions for the doctoral student:

- What is the theoretical basis for the hypotheses H11 and H21?
  - H11 The level of innovation of agricultural products has a significant impact on the level of quality of agricultural products:
  - H21 The level of quality of agricultural products has a significant impact on the level of innovation of agricultural products.
- On page 167: What are the consequences for the regressions' coefficients and their significance from the removal of the variables from the regression function? (Quality A; Quality B, which are statistically insignificant)
- On page 168: Why is the intercept (which is not statistically significant) not removed from the model by the same logic as in Quality A; Quality B? What are the consequences of removing the intersection from the model?
- How do the R2, R-adjusted, and F-criteria change when removing variables from the model?
- If the theory says that a variable affects the process, should it be removed if it is not statistically significant?
- To what extent do the opinions of experts reflect the real processes of innovation?

#### 8. Published articles and citations

5 publications related to the dissertation are presented - 2 independent and 3 co-authored. They are published in: (1) the Journal "International Review", Faculty of Business Economics and Entrepreneurship, Belgrade (2020); (2) Journal "Trends in Business" Faculty of Business Economics and Entrepreneurship, Belgrade (2020);

(3) International Scientific Conference "Leadership and Human Resource Management", Sofia, Bulgaria (2019); (4) Thematic collections from, International, Scientific Conference "Employment, Education and Entrepreneurship ", Belgrade, (2019); (5) Proceedings of the conference" Trends in Business ", Kruševac (2019).

The presented abstract objectively reflects the structure and content of the dissertation.

#### **CONCLUSION:**

Based on the learned and applied by the doctoral student, different research methods, correctly performed experiments, summaries, and conclusions, I believe that the presented dissertation meets the requirements of the Law on the Development of the Academic Staff and the Rules of the Agricultural University for its application, which gives me a reason to evaluate it POSITIVE.

I allow myself to propose to the esteemed Scientific Jury also to vote positively and to award MIRKO MILANOVIC the educational and scientific degree "Doctor" in the scientific specialty Economics and management

Date 11.01.2021.

Plovdiv

REVIEWER:

(Prof. Dr. Ivan Penov)