REVIEW

by Prof. Dr. Neli Andreeva Bencheva - Agricultural University, Plovdiv

of a dissertation for awarding the educational and scientific degree 'doctor'

in the field of higher education 3. Social, economic and legal sciences

professional direction 3.8 Economics, PhD Program Economics and Management (Industry)

Author: Megi Zdravkova Dakova.

Topic: "Interaction of higher education and the industrial enterprise in the conditions of a competitive business environment"

Research supervisor: Assoc. Dr. Angel Dimitrov - University of Plovdiv "Paisiy Hilendarski"

1. General description of the presented materials

By order No. RD-21-221 dated 01.02.2023 of the Rector of Plovdiv University "Paisiy Hilendarski" (PU), I have been appointed as a member of the scientific jury to ensure a procedure for the defense of a dissertation work on the topic "Interaction of higher education and the industrial enterprise in the conditions of a competitive business environment" for obtaining the educational and scientific degree "doctor" in the field of higher education 3. Social, economic and legal sciences, professional direction 3.8 Economics, doctoral program Economics and management (industry)

The author of the dissertation is Megi Zdravkova Dakova - a full-time PhD student at the Department of "Management and Quantitative Methods in Economics" with scientific supervisor, Associate Professor Angel Dimitrov, Plovdiv University "Paisiy Hilendarski".

The set of paper materials presented by Megi Dakova is in accordance with Article 36 (1) of the Regulations for the Development of the Academic Staff of the PU, includes the following documents:

1. application form to the rector for opening a procedure;
2. curriculum vitae in European format;
3. diploma for educational and qualification degree "master";
4. protocol of the preliminary discussion in the department;
5. abstract;
6. declaration of originality and authenticity of the attached documents;
7. certificate of compliance with the minimum national requirements;
8. list of publications;
9. dissertation work;
10. copies of the publications on the topic of the dissertation work;

11. order for enrollment in doctoral studies;

12. order for dismissal from doctoral studies;

13. official note certifying participation in projects;

14. list of certificates obtained during the training period;

15. set of documents on paper from item 1 to item 10 – 3 pieces;

16. set of documents from items 1, 2, 3, 4, 6, 7, 8 (possible indication of other documents from items 5 and 9 on electronic media) – 7 pieces;.

The doctoral student proposed 6 /six/ publications.

I accept that the doctoral student has submitted the materials required for the procedure for review, in accordance with the requirements of Art. 4. of the ZRASRB, art. 2 (2), art. 30. (3) PPZASRB, and art. 37. (1) PRASPU.

2. Brief biographical data for the doctoral student

Doctoral student Megi Dakova was born on 23.12.1990. He completed his secondary education at "St. St. Cyril and Methodius" - Plovdiv (2009). He has a bachelor's degree in biology and chemistry from Paisii Hilendarski Polytechnic University (2009-2013). Obtained a master's qualification (2013-2015) at the "Paisiy Hilendarski" PU in "Management of human resources", with acquired skills in "Team building and team building", "Organizational innovations", "Qualification and retraining of personnel" , "Human resource management models" and others.

During the period 2015-2016, the doctoral student studied in a second master's program in "Marketing" at the same university, acquiring professional skills in Brand Management, Marketing Audit, Marketing of Services, International Markets and Prices, etc.

In 2019 Megi Dakova begins full-time studies in the doctoral program "Economics and Management (Industry)", at the Department "Management and Quantitative Methods in Economics", Faculty of Economic and Social Sciences of PU "Paisiy Hilendarski". Her main research interests as a PhD student focus on innovation in education and science, commercialization, technology transfer, researcher profile, education 4.0/5.0.

In addition to good theoretical training on the issues of innovations in education and management and development of human resources, Megi Dakova exercises the acquired qualifications, skills and competences in the Ministry of Education and Science (MES), Sofia, as an intern - Expert to "OPES" Directorate. From 4.09.2015 until now he holds the position of expert at NPD - administration of scientific projects, at Plovdiv University "Paisiy Hilendarski".

The doctoral student uses English at a very good level.

He has the skills to work with Linux, OS MAC, Microsoft Office (Microsoft Word, Microsoft Excel, Microsoft Power Point, Microsoft Access), Internet, simulation programs and statistical data processing, laboratory equipment.

She participates in voluntary youth organizations, as well as in national scientific conferences and seminars, which helps her to develop good communication and social skills. As a member of the Student Council at "Paisiy Hilendarski" PU, he works in a multicultural environment, as well as in a team with people with different intellectual and cultural interests. He has experience with administrative work, teamwork, managing budgets and people, implementing projects with educational and cultural goals. He is a member of the Union of Scientists in Bulgaria - Plovdiv branch. Actively participates in the candidate student campaign of Plovdiv University "Paisiy Hilendarski".

The presented main highlights on the biographical data of Megi Dakova in relation to the procedure, unequivocally show her good theoretical and practical training in an institutional environment. To a very large extent, this has contributed to the quality of the research process in the course of developing the dissertation work.

3. Actuality of the topic and appropriateness of the set goals and tasks

The dissertation examines a current topic related to the study of connections, interrelationships and forms of cooperation and innovation between higher education and business organizations in Bulgaria.

Today, in the conditions of intensifying competition and growing need for highly qualified personnel, appropriate mechanisms are being sought to strengthen the connection and interaction between education-science-business. Exploring the degree of interaction between all parties is key to establishing long-term and sustainable cooperation.

Despite numerous scientific studies on this topic, basic issues such as the interaction between higher education and industrial enterprises, innovation policies for building and establishing an effective connection between education, science and business, in order to achieve a sustainable economy, need more -deep pro-learning and analysis.

In this context, the chosen topic deals with important and current aspects of the interaction between higher education and industrial enterprises, proving the need to identify the factors and specific opportunities for cooperation between higher education and business organizations.

The analysis and assessment of the state of the scientific research system in Bulgaria, including , the research activity in higher education, the national framework for the development of higher education and business, the main strategies and policies for the

development of R&D, are the basis for developing a conceptual model by areas of higher education and research activity and assessing the interaction with business , on the example of Plovdiv University "Paisiy Hilendarski".

I believe that the doctoral student very skillfully, with solid objective arguments and evidence, achieving the goal and the specific tasks of the dissertation research, justified the relevance of the chosen topic.

4. Knowing the problem

The dissertation was developed in a volume of 205 pages. In terms of structure and content, a good and logical presentation of the material has been achieved. The paper is structured as follows: list of abbreviations used, introduction, three chapters, conclusion, recommendations, contributions, bibliography and appendices. 138 literature-tour titles were used, of which 36 in Bulgarian, 42 in foreign languages and 60 internet sources. The results of the empirical studies are illustrated in the main text of the dissertation work in 6 tables, 39 figures and 6 appendices.

The doctoral student shows a good knowledge of the scientific literature and basic theoretical statements related to the cooperation between higher education, science and business based on the "knowledge triangle" model. As a result of the in-depth literature review, in the process of developing the theoretical analysis and presenting the results of the empirical research, the doctoral student shows a good knowledge of the category and conceptual apparatus. Demonstrated ability to clearly and accurately present the opinions and definitions of individual authors and to take one's own reasoned, critical position.

The formulated clear research thesis that education, science and business can successfully cooperate, with rational use of available resources on the basis of trust and mutual benefits, is the basis of the specifically defined goal, namely studying the interaction between the higher school and industrial enterprises..

To achieve the goal, five research tasks were solved. The object and subject of the study fully serve the purpose and tasks.

For the needs of the research, a basic scientific hypothesis was drawn up, that the effective partnership between education, science and business has the result of increasing the quality of training, accelerating the transfer of knowledge and technology, which is of essential benefit to business. The main hypothesis is decomposed into three specific additional hypotheses that supplement and enrich it.

The realization of the goals and tasks of the research, as well as proving the hypothesis and sub-hypotheses, is achieved through a specially developed methodology.

The dissertation contains specific results and empirical evidence, which objectively reflect the real achievements of the conducted scientific research regarding the effectiveness of the cooperation between the university, science and business organizations. The contributions greatly enrich the scientific knowledge for application of the developed toolkit for research and evaluation of effective cooperation leading to the creation of new knowledge and skills, development of R&D, successful implementation of graduating students and innovative products for business.

The achieved results show that the doctoral student has a good theoretical preparation, solid practical knowledge and skills, which allowed her to independently conduct the scientific research that meets the requirements for the preparation of a research paper for the acquisition of the ONS "doctor".

5. Research methodology

The developed research methodology allows achieving the set goal and getting an adequate answer to the tasks solved in the dissertation work.

The conducted research is based on a specially developed methodology in accordance with the object, the subject, the goal, the tasks and the hypothesis. The methodology and methodology of the empirical research are described in detail in the second chapter. The organization of the research process, the findings, conclusions and generalizations are the result of using a wide information base, including a literature review of Bulgarian and foreign scientific publications, periodical and specialized scientific publications and Internet information sources, public data from national and international organizations: Ministry of Education and Science, National Statistical Institute, Europe 2020, Horizon 2020, OP NOIR, etc., empirical material obtained from primary information from the author's empirical research conducted among representatives directly involved with scientific research and development activity at PU "Paisiy Hilendarski" and representatives of business organizations. The obtained data were processed with specialized software for social research IBM SPSS, version 26.0 and Microsoft Excel 2019.

A combined research strategy was used, which involved the application of both quantitative and qualitative methods. The analysis of the obtained results was carried out with the application of the following basic general scientific methods: observation, comparison and analysis. The following statistical methods were applied: - χ 2 test for checking dependence between categorical features; - Kramer's coefficient (V) – for evaluating the degree of dependence established with $\chi 2$

It can be summarized that the research technology was developed on the basis of the construction of research solutions, built by using modern quantitative methods, which allow reliable results to be obtained in the analysis process.

6. Characterization and evaluation of the dissertation work

In the first chapter of the dissertation, the theoretical framework of the scientific research is developed. The relationship between business and higher education is analyzed based on the higher education, science and business model. As a result of a critical analysis of the opinions of leading authors on the subject, various modifications of the model have been reported, including society and the state. The position is advocated that education contributes not only to the creation of highly qualified personnel, which can be successfully realized in the labor market, but is also a user of such personnel. In this context, the importance of universities as disseminators of knowledge and generators of new ideas, many of which have practical implementation, is emphasized. The importance of science as a prerequisite for scientific progress and an intermediary between education and business is emphasized. Special attention is paid to the critical theoretical analysis of the interaction between higher education, science and business, based on the "knowledge triangle" model. It is proven that their active support leads to an accelerated development of education and R&D, and in this way, the "triangle" model is moved to the "spiral of knowledge" model. Emphasis is placed on long-term cooperation, which should be built on the basis of trust, mutual benefits, efficient use of resources and creation of products as the end result.

The doctoral student categorically defends the opinion that innovations in the educational process categorically impose changes in the educational system, related to updating and changing curricula, disciplines, teaching methods. It is concluded that the promotion of innovation activity and its results have a decisive importance for the commercialization of the final scientific product.

As a summary, the in-depth theoretical analysis of the education-science-business relationship is a guarantee for the successful development of the second and third chapters of the dissertation work.

In the second chapter, an analysis of the state of research and development in universities in Bulgaria is made. The factors and forms of interaction between higher education institutions and industrial enterprises in Bulgaria have been revealed. The strategic guidelines for the development of higher education institutions in Bulgaria are indicated. Emphasis is placed on the statement that the implementation of international and national programs and strategies for the development of education in Bulgaria are directly related to the country's

economy and have an impact on the labor market. An author's interpretation of the interaction between the university and business organizations was made. A comprehensive analysis of the scientific research system in Bulgaria was carried out, with the main emphasis being placed on the development of innovations and research and development activities. The position is defended that "investment in education is a strategic investment" which is linked to the increase of the country's competitiveness. In this regard, the main priorities in the field of education and science leading to an increase in the quality of education, ensuring equal access, linking curricula with the real needs of business, attracting and retaining young specialists in science and increasing their qualifications are indicated. . The strengths and weaknesses of the country's scientific research system are revealed. An author's conceptual model is proposed for establishing the process of interaction between higher education and industry. The model is presented in two parts: - Areas of interaction between HEIs and business, - Indicators for evaluating the results of cooperation between HEIs, business organizations and R&D.

In this chapter, in order to achieve the goals and tasks set in this dissertation, developed methodologies, techniques and concepts used for working with primary and secondary data are presented in detail. The methodological framework of empirical research. includes four stages for registering, summarizing, processing and analyzing the received data.

The third chapter presents and analyzes the results of an empirical study. It was done with a survey: through a survey card aimed at the industrial sector and business organizations and through direct interviews with representatives who are directly involved in the activity of research and development at PU "Paisiy Hilendarski". Basic conclusions are drawn that prove the formulated hypothesis and additional hypotheses. This chapter also presents an author's web-based platform in the university space, developed for the needs of the Faculty of Economic and Social Sciences, and its possibilities are revealed. The platform provides direct contact between students, teachers and businesses, leading to curriculum updates, exchange of ideas, sharing of experience, etc.

As a summary, we can point out that the dissertation contains specific results and empirical evidence that objectively reflect the credibility of the material on which the contributions of the dissertation work and the real achievements of the conducted scientific research are formulated.

7. Contributions and significance of the development for science and practice

The following more important theoretical-methodological contributions can be noted in the presented dissertation work:

1. On the basis of an extensive, critical literature review, a thorough theoretical analysis of the interaction between higher education, science and the industrial enterprise has been made.

2. On the basis of a number of normative and strategic documents, an analysis of the state of research and development in higher education in Bulgaria for the period 2017-2021 was made, with the strengths and weaknesses revealed.

3. On the basis of theoretical justifications and proven empirical results from the application of the research methodology, an author's conceptual model for the development of cooperation between the university and business organizations in areas of interaction and evaluation indicators has been developed.

Among the scientific contributions with practical application, we will indicate the following:

1. The results obtained from the researched connections and dependencies between Plovdiv University "Paisiy Hilendarski", research centers and business organizations in the territory of the South Central Region can be used by the university management to formulate key management decisions for effective cooperation.

2. Specific recommendations have been formulated to increase cooperation between education, science and business.

3. Good practices at the University have been systematized as a basis for establishing stable partnership relationships with other higher education institutions and business organizations.

4. An author's web-based platform in the university space is presented, which enables direct contact between students and business organizations, and better communication for exchange of ideas, consultations, sharing of experience.

8. Evaluation of publications on the dissertation work

In connection with the dissertation work, 6 /six/ scientific articles were published. Two independent works in Bulgarian and three in co-authorship. The articles contain results of the dissertation work.

9. Personal participation of the doctoral student

Bearing in mind the above analysis of the sections, I consider that the development of the dissertation work is a personal merit of the doctoral student.

10. Abstract

The abstract correctly and accurately reflects the structure and content of the dissertation work. It includes the main chapters, results of the research done, conclusions, conclusion, contributions and bibliography.

11. Critical remarks and recommendations

I have the following questions for the doctoral student:

1. Do you think that the status of a research university, which was introduced in

Does the Higher Education Act 2020 support the development of important public areas through cutting-edge research and high research results, assessed according to objective indicators?

2. What is the mechanism of use of the web-based platform by students, who

have not completed and what is the benefit to them of using it?

12. Personal impressions

I don't know the PhD student personally.

13. Recommendations for future use of dissertation contributions and results

I recommend the doctoral student to publish the results of the dissertation work in prestigious scientific journals with an impact factor in English.

CONCLUSION

The dissertation contains scientific, scientific-applied and applied results, which represent an original contribution to science and meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for the Implementation of the ZRASRB and the relevant Regulations of PU "Paisiy Hilendarski" ".

The dissertation shows that the doctoral student Megi Zdravkova Dakova. possesses in-depth theoretical knowledge and professional skills in the scientific specialty of Economics and

management (industry) by demonstrating qualities and skills for independent conduct of scientific research.

Due to the above, I confidently give my positive assessment of the conducted research, presented by the above-reviewed dissertation work, abstract, achieved results and contributions, and I propose to the honorable scientific jury to award the educational and scientific degree "doctor" to Megi Zdravkova Dakova in the field of higher education: 3. Social, economic and legal sciences, professional direction 3.8 Economics, doctoral program Economics and management (industry).

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27.02. 2023

Reviewer: .....

Prof. Dr. Nelly Bencheva