

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 (Agriculture)"

Author of the dissertation: Petar Asenov Kazakov, PhD student (part-time) at the Department of Economics at the Agricultural University, Plovdiv

Topic of the dissertation:
IMPACT OF CENTRES OF EXCELLENCE ON THE DEVELOPMENT OF THE BIOECONOMY IN EUROPE

Reviewer: Assoc. Prof. Dr. Ekaterina Dimitrova Kyuskieva-Arabska, University of Agribusiness and Rural Development - Plovdiv, field of higher education: 3. Social, economic and legal sciences, professional field: 3.7. Administration and Management, scientific specialty: Social Management) appointed as a member of the scientific jury by order No. RD-16-736/08.06.2026 by the Rector of the Agricultural University - Plovdiv.

1. Topicality of the problem

The presented scientific research examines two topical issues – the development of centers of excellence and the bioeconomy, in their interconnectedness and influence on each other and on innovation and sustainable development. The analysis of the theoretical and conceptual foundations of the bioeconomy, including its emergence, development and main directions; the European and international strategic frameworks related to the bioeconomy; the institutional and innovation infrastructure in support of the bioeconomy at the European, national and regional levels; the socio-economic impact of centers of excellence on regional and national development, etc. is generated by the real needs of practice. The definition and classification of centers of excellence, European policies for their establishment and financing, the study of organizational models, management structures and partnerships of leading centers of excellence in Europe is the basis for formulating recommendations for optimization and strategic development of centers of excellence in the context of European priorities. Conducting an in-depth analysis of the Center for Plant Systems Biology and Biotechnology (CPSBB) in Bulgaria – its mission, structure, scientific results, funding and international partnerships, allows to assess the contribution of CPSBB to the development of the regional and national bioeconomy. The questions raised are topical, and the approach to them is distinguished by the strive for integrity.

The dissertation represents an original and complete scientific study, tied to practice, drawing up up-to-date conclusions and recommendations with high potential for application.

2. Aim, tasks, hypotheses and research methods

The dissertation states that the main aim is to analyse the role of centres of excellence in the development of the bioeconomy in Europe, by assessing their impact on the innovation system and deriving guidelines for strategic development, with a focus on the Centre for Plant Systems Biology and Biotechnology (CPSBB) in Bulgaria.

The object of the study is defined as follows: centres of excellence in Europe as part of the European science and innovation system.

The subject of the study is the role of centres of excellence in the development of the bioeconomy, their organisational models, funding mechanisms, interactions with other institutions and their socio-economic impact, as well as the specific case of the CPSB in Bulgaria.

To achieve the set aim, nine research tasks have been formulated, which have been successfully completed.

The study combines a variety of research techniques, allowing for analyses of both the institutional, organizational and strategic characteristics of the research centers, as well as empirical measurement of the perceptions of key stakeholders. The combination with a case study analysis further substantiates the significance and validity of the results achieved.

3. Visualization and presentation of the obtained results

The presented dissertation is 233 pages long, contains 38 figures and 32 tables, which correctly illustrate the obtained results.

The dissertation is structured in four main chapters, which follow a logical sequence. Conclusions and recommendations are stated separately. The style is concise and allows for a clear and unambiguous presentation of the results. The author demonstrates remarkable skills in analysis and synthesis, presenting the results in a simultaneously scientific and more widely accessible and understandable way. Considering the orientation of the study to the real practice of centers of excellence and the focus on one excellent example in Bulgaria, this is a prerequisite for good dissemination and application of the recommendations and the proposed conceptual model for the strategic effectiveness and sustainability of centers of excellence, which includes institutional sustainability, financial autonomy, scientific competitiveness, innovation transfer and industrial integration, and societal and regional impact.

4. Discussion of the results and used literature

The dissertation presents analyses of the theoretical and conceptual foundations of the bioeconomy and the role of the centers of excellence, focusing on the innovation system in Europe and drawing attention to the example of the Center for Plant Systems Biology and Biotechnology in Plovdiv. The study proposes a conceptual framework for strategic optimization of the centers of excellence, highlighting the role of the centers of excellence in the European bioeconomic transformation. The emphasis is placed on the business model and mechanisms for sustainability with an emphasis on impact. The main conclusion is that an integrated approach is needed, combining institutional stability, financial autonomy, scientific competitiveness, technology transfer and societal impact. The proposals can be applied in the development of strategies and policies at national and European levels, for the development of the Center for Plant Systems Biology and Biotechnology, as well as for upgrading scientific research. The analyses of

successful models and good practices, as well as the studies and conclusions on the socio-economic effect of centers of excellence, should be considered a particular merit.

206 sources used are listed, which are distinguished by their relevance and topicality.

5. Contributions of the dissertation

I accept the contributions presented in the abstract to the dissertation as credible and the author's personal work. Below I place them in their original version:

Scientific and theoretical contributions

1. An integrated theoretical and conceptual framework has been developed for analyzing the interrelationship between the bioeconomy, centers of excellence and innovation systems, uniting economic, institutional and managerial aspects of sustainable development.

2. A conceptual typology of centers of excellence has been developed, deriving their organizational characteristics, management models, financing mechanisms and functional relationships with the scientific, innovation and economic environment.

3. The role of centers of excellence as strategic intermediaries between science, business and public policies has been theoretically substantiated by integrating the concepts of innovation systems and the Triple Helix model.

4. The scientific understanding of the centers of excellence as a key element of the European bioeconomic transformation has been further developed, and their role in knowledge transfer, human capital development and regional socio-economic development has been argued.

Scientific and applied contributions

1. A comparative analysis of leading European centers of excellence in the field of plant systems biology has been carried out, through which good practices, organizational models and factors for sustainable development applicable in Bulgarian conditions have been identified.

2. An empirical approach has been developed and tested to assess the role of centers of excellence in the development of the bioeconomy through a bilingual survey, which allows for the identification and systematization of the main factors determining their impact on innovation ecosystems and regional development.

3. An integrated multi-component model for strategic development and optimization of centers of excellence has been developed, which combines institutional, financial, scientific and innovation mechanisms for sustainable functioning.

4. A business model and strategic roadmap for the sustainable development of the Center for Plant Systems Biology and Biotechnology, and the centers of excellence as a whole, have been proposed, including mechanisms for financial sustainability, technology transfer, international cooperation and strengthening the interaction between science, business and public institutions.

6. Critical notes and questions

I have no critical notes and recommendations.

I have one question: *According to the author, how could the quadruple helix approaches applied in "living laboratories" could be developed in centers of excellence?*

7. Published articles and citations

6 publications are presented, of which 4 are indicated to be indexed in Scopus, 1 – Web of science, 1 – Google Scholar, which cover the minimum scientometric indicators for acquiring the educational and scientific degree "doctor".

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

CONCLUSION:

Based on the various research methods learned and applied by the doctoral student, the correctly conducted experiments, the generalizations and conclusions made, I believe that the presented dissertation meets the requirements of the Academic Staff Development Act of the Republic of Bulgaria and the Regulations of the Agrarian University for its application, which gives me reason to evaluate it POSITIVELY.

I would like to propose that the esteemed Scientific Jury also vote positively and award Petar Kazakov the educational and scientific degree „doctor“ in the scientific specialty „Economics and Management (Agriculture)“.

Date: 20.07.2024
Plovdiv

**Подписите в този документ са
заличени
във връзка с чл.4, т.1 от Регламент
(ЕС) 2016/679
(Общ Регламент относно защитата на
данни).**