

## REVIEW

By Associate Professor Dr. Petia Hristomirova Branzova, Economic Research Institute at the Bulgarian Academy of Sciences, Field 3. "Social, Economic, and Legal Sciences," Professional Direction 3.8. "Economics," Scientific Specialty "Economics and Management (Agricultural Economics)," with candidate Mina Markova Karpuzova, a regular doctoral student with a scholarship, discharged with the right to defend in the doctoral program "Economics," NBU, Professional Direction 3.8. "Economics", Scientific Specialty "World Economy, and International Economic Relations", for acquiring of the educational and scientific degree "Doctor."

I participate as a member of the scientific jury in the competition according to Order No. 3-RK-56 dated 31.10.2024, issued by the Rector of New Bulgarian University.

### **1. Significance of the Research Problem in Scientific and Applied Science Aspects**

The dissertation topic - "Alternative Business Models in the Sphere of the Circular Economy in the European Union" - is current and significant for economic science and the practical development of modern business models. The study focuses on the transition from a linear to a circular economic model, aimed at optimizing resource efficiency and addressing the challenges posed by growing consumption, pollution, and climate change. In this context, the research by doctoral candidate Karpuzova is a valuable addition to existing academic studies, specifically exploring alternative business models applicable in the European Union and Bulgaria.

The depletion of natural resources and the accumulation of waste are severe problems that the circular economy seeks to overcome by creating closed loops for using materials and raw materials. The doctoral candidate delves deeply into these issues, critically analyzing the causes of the linear approach used in traditional economics and the opportunities the circular economy provides to minimize waste and enhance environmental sustainability. This approach is of utmost importance as it reflects the global aspiration to achieve sustainable development and integrates ecological and economic factors into a unified model. Doctoral candidate Karpuzova also emphasizes the social aspects of the circular economy, pointing out that the successful implementation of these models requires collaboration among government, businesses, and citizens.

### **2. Clearly Formulated Goals and Objectives of the Dissertation**

The main goal of the dissertation by doctoral candidate Karpuzova is clearly defined - to study and analyze circular business models applicable in the context of the European Union and Bulgaria. The author has succeeded in formulating accompanying research objectives, including a review of existing literature, systematization of best practices, analysis of the applicability of models, and the development of recommendations to facilitate the transition to a circular economy at the regional level. The goals and objectives of the dissertation are well-structured and logically lead to an in-depth analysis of the problem.

### **3. Extent of Familiarity with the State of the Problem and Appropriateness of the Literature Used**

Mina Karpuzova demonstrates a profound understanding of the state of the problem and existing research in the field. The dissertation cites over 140 sources, with the included studies covering the latest trends and debates in the field of circular economy, as well as issues related to sustainable development and alternative business models. The literature used in the dissertation is well-chosen and up-to-date, and the author has made efforts to include interdisciplinary sources, providing a broader perspective on the topic. However, it would have been beneficial to include more case studies from developing economies to enrich the comparative analysis and illustrate the challenges of implementing circular models in different socio-economic contexts.

### **4. Accuracy in Citing a Representative Number of Authors**

Citations in the dissertation are accurate, precise, and adhere to established academic standards. The doctoral candidate has included a variety of authors, enriching the analysis and broadening the perspective on the examined problem. The inclusion of key sources from both Bulgarian and international authors reflects a serious approach to selecting literature and the overall quality of the dissertation. The accuracy in citation also shows that Mina Karpuzova is well-versed in existing studies and their significance for her analyses.

### **5. Availability of a Well-Founded and Developed Theoretical Model of the Study**

The research by the doctoral candidate is built on a solid theoretical framework and a carefully developed methodology that combines qualitative and quantitative methods to provide a multifaceted and in-depth analysis. The theoretical framework includes key concepts and approaches related to the circular economy, sustainable development, and alternative business models, giving the study a robust analytical foundation. This foundation ensures the reliability and validity of the research and enables a critical review of current practices and their development in the context of the European Union and Bulgaria.

The author constructs her research model based on empirical data collected through structured interviews with representatives of business organizations that already implement or plan to adopt circular models. These interviews provide direct insights from the business sector and offer a detailed view of practical experiences and corporate attitudes toward the transition to sustainable business practices. This method yields valuable qualitative data, revealing specific challenges and opportunities businesses face in the adaptation process.

In addition to the interviews, Mina Karpuzova includes survey research to analyze consumer attitudes toward the circular economy. The surveys allow for the collection of quantitative data, broadening the analysis with insights into public opinion and the degree of acceptance of circular models by end users. Through this method, the author identifies the level of awareness and willingness of consumers to support sustainable business practices, which is a crucial element for the successful implementation of circular models. This combination of interviews and surveys enables the doctoral candidate to present reliable and valid results that encompass both the business and social dimensions essential for the success of the circular economy.

The approach adopted by doctoral candidate Karpuzova provides a comprehensive view of the challenges and opportunities for implementing alternative business models and supports the

research with substantiated and thorough results that meet the set goals and objectives of the dissertation.

## **6. Consistency of the Chosen Methodology and Methods with the Goals and Objectives of the Dissertation**

The methodology chosen by the doctoral candidate and her academic advisor is fully aligned with the set goals and objectives of the study, ensuring a systematic and multifaceted approach to data collection and analysis. The use of desk research, structured interviews, and surveys represents a strategic combination that allows the author to cover the main aspects of the research problem and propose substantiated and reliable conclusions.

Desk research provides the foundation for in-depth theoretical analysis and allows the author to familiarize herself with current literature and leading theories in the field of circular economy and alternative business models. Through this method, Mina Karpuzova summarizes and systematizes a wide range of existing studies, contributing to a comprehensive and precise understanding of the framework in which the circular economy evolves. This part of the study enriches the overall analysis by providing a stable theoretical basis on which the author builds her methodology.

Structured interviews with business representatives applying circular models provide a practical perspective and bring an important empirical element to the study. These interviews allow the doctoral candidate to gain direct access to the opinions and experiences of individuals directly involved in implementing these models. The interviews reveal specific challenges and opportunities companies face and provide data on the impact of the circular economy on their activities. This approach provides the research with detailed and reliable first-hand information that complements and enriches the desk research by adding a practical dimension to the theoretical model.

Surveys are another important methodological element, complementing the analysis by providing data on consumer attitudes toward sustainable products and circular business models. Through this method, the doctoral candidate encompasses the social aspect of the study, determining the extent to which the public is informed and supportive of the circular economy. Surveys provide data that allow for an analysis of consumer behavior and their willingness to adopt sustainable products and services. This method enriches the study by enabling the author to evaluate the significance of the social factor for the success of the circular economy and consider its impact on the development of alternative business models.

The combination of desk research, interviews, and surveys ensures a comprehensive and multifaceted approach to analyzing the research problem. This combination of methods allows the doctoral candidate to cover all significant aspects of the topic and present a complete and substantiated picture of the challenges and opportunities for implementing circular models in business. This integration enables the author to unify theoretical and practical approaches, thereby providing a comprehensive and in-depth analysis of the topic that meets high academic standards.

## **7. Presence of Original Contribution in Collecting and Analyzing Empirical Data**

Mina Karpuzova's dissertation demonstrates significant personal contribution in collecting and analyzing empirical data, which constitutes a key component of her dissertation. The author is actively involved in the entire data collection process, including researching companies applying circular business models and conducting in-depth interviews with representatives of these organizations. Data gathered through interviews provide a unique perspective on the real challenges and opportunities for businesses striving for sustainable development and enable the doctoral candidate to supplement theoretical assumptions with up-to-date practical information.

The surveys conducted by the author add an additional social aspect to the analysis, gathering opinions and attitudes from end users regarding the circular economy and sustainable products. The independent development and implementation of these surveys allow the doctoral candidate to identify consumer attitudes and summarize their perceptions of alternative business models. This enables the author to build a comprehensive view of how the circular economy is perceived by society, analyzing not only business but also social factors that play a critical role in the success of these models.

The contributions of Mina Karpuzova are also evident in her ability to synthesize these data into an in-depth analysis that combines qualitative and quantitative aspects of the studied topic. Interviews provide an empirical basis for understanding business attitudes, while surveys contribute to understanding social attitudes. This combination enables the author to present a thorough and balanced view of the development of the circular economy, enriching the study with original data that clearly reflects her personal involvement and contribution.

### **Description of Contributions:**

1. Brief Characterization of the Nature and Evaluation of the Reliability of the Material Underpinning the Dissertation Contributions

The contributions in Mina Karpuzova's dissertation are based on a combination of theoretical sources and original empirical data collected through desk research, interviews, and surveys. Desk research includes the study of contemporary literature, scientific articles, reports, and official documents that provide a solid basis for understanding the circular economy and sustainable business models. Empirical data gathered from interviews with business representatives and consumer surveys enrich the theoretical framework with specific observations and quantitative measures. This combination makes the research material reliable, objective, and reflective of the real situation in both the business environment and society.

2. Description of the Candidate's Contributions and Their Classification

a) The dissertation should demonstrate that the candidate possesses profound theoretical knowledge in the respective specialty and the ability to conduct independent scientific research.

The doctoral candidate demonstrates solid theoretical knowledge in the field of circular economy and alternative business models, analyzing contemporary concepts and some of the best international practices. Her contribution is expressed in developing a comprehensive and systematic analysis of the circular economy, tailored to the specific characteristics of the

Bulgarian economy and European regulations. The main scientific and applied scientific contributions of the research can be classified as follows:

- **Analytical Contribution:** An in-depth analysis of existing models in the circular economy with a focus on their efficiency and applicability in Bulgarian and European contexts.
- **Empirical Contribution:** Conducting interviews with business representatives and surveys with consumers, providing valuable practical data and highlighting the real advantages and challenges businesses face during the transition to sustainable models.
- **Practical Recommendations Contribution:** Developing recommendations for businesses and institutions to support the transition to a circular economy, tailored to the specific economic and social conditions in Bulgaria and the European Union.

### 3. Evaluation of the Candidate's Personal Contribution to the Contributions

The doctoral candidate is evidently deeply engaged in the entire process of data collection, processing, and analysis. Her personal involvement is evident at all stages of the research, conducting interviews, surveys, and desk research independently, contributing to the authenticity and depth of the analysis. These elements are carefully integrated into the dissertation structure, enhancing the authenticity, depth, and validity of the analysis.

### 4. Assessment of the Consistency of the Abstract with the Main Points and Contributions of the Dissertation

The abstract of the dissertation clearly and systematically presents the main goals, methodology, results, and contributions of the research. It corresponds to the main points and achievements in the dissertation, providing a complete and adequate representation of the key results and the significance of the study. It creates a coherent overview of the work and summarizes Mina Karpuzova's contribution to the theory and practice of the circular economy.

## Impacts of the Dissertation on the External Environment

### 1. Evaluation of Publications on the Dissertation: Number, Nature of Publications

Mina Karpuzova presents in the compliance report for minimum requirements three publications related to the topic of the dissertation, published in scientific journals and conference proceedings. These publications include an article in a peer-reviewed scientific journal and conference papers, emphasizing the significance of the research and its contribution to science.

These publications are directly related to the main conclusions of the dissertation, evidencing Mina Karpuzova's consistency in her scientific work and her contribution to the theoretical and practical development of the circular economy. The publications are part of established platforms and peer-reviewed journals, making the results of the study accessible to a broad range of scientists and practitioners in sustainable development.

The presented publications clearly demonstrate compliance with the minimum criteria for awarding the educational degree "Doctor."

## **2. Use and Citation by Other Authors, Reviews in Academic Press**

The attached documents do not provide information on the number of citations, nor is this required for the competition. However, the fact that the publications have been presented at established scientific forums indicates that Mina Karpuzova's work has the potential to influence the academic community. The presented studies contribute to a better understanding of the circular economy and alternative business models, which serve as a premise for future citations and use by other authors and researchers in the field.

## **Personal Qualities of the Author (if known to the Reviewer)**

### Opinions, Recommendations, and Notes

Mina Karpuzova's dissertation represents a significant contribution to the study of the circular economy and sustainable development. Despite the high quality and depth of the dissertation, I would recommend that in the future, the author expand her analysis with additional quantitative studies to provide an objective assessment of the economic and environmental effects of applying circular business models. For example, using econometric models and statistical analyses could provide precise indicators for profitability, efficiency, and environmental benefits associated with implementing circular models.

Considering such quantitative measures would contribute to a more objective assessment of the benefits of the circular economy and provide measurable data that could be useful for future research and business organizations interested in transitioning to sustainable practices. Additionally, adding more examples from countries outside the European Union, particularly those with different socio-economic contexts, would give the study a broader and interdisciplinary perspective.

I have several questions for doctoral candidate Mina Karpuzova:

1. How did you select the companies participating in the interviews, and how did you ensure their representativeness for the business environment in Bulgaria?
2. What criteria did you use to structure the survey questions for consumers, and how do you evaluate their validity?
3. Which theoretical models of the circular economy had the most significant impact on your research and why?
4. How do you see the future of the circular economy in a global and European context based on your conclusions?
5. In which areas of the circular economy do you see the need for further research?

## **Conclusion**

Based on the analysis of the presented dissertation and the evaluation of its structure, methodology, contributions, and applicability, I give a positive assessment of the work.

The dissertation meets all the requirements for a high-level academic work, demonstrating profound knowledge in the field of the circular economy and alternative business models, as well as the ability of the doctoral candidate to conduct independent and in-depth scientific research. The dissertation showcases a well-structured methodology combined with original

empirical data collected through interviews and surveys, contributing to the validity of the results and their practical applicability.

The dissertation is a significant contribution to the scientific field and offers a valuable perspective on sustainable management and the circular economy. The abstract accurately and clearly presents the main points, conclusions, and contributions, providing a synthesized overview of the research.

As of the preparation of this review, no reports of copyright violations have been received, nor has any plagiarism been identified in the presented academic work and publications.

I accept as fulfilled the provided compliance report with the minimum requirements of the existing Law on the Development of the Academic Staff, the Rules for its Implementation, and the Regulations for the Development of the Academic Staff at NBU by doctoral candidate Mina Karpuzova.

Given the above, I fully support the awarding of the educational and scientific degree "Doctor" to Mina Markova Karpuzova in the program "Economics," NBU, Professional Direction 3.8. "Economics", Scientific Specialty "World Economy and International Economic Relations".

Date: 06.12.2024

Signature: .....