REVIEW

By: PROF. DR. KAMEN DIMITROV PETROV
Professional field: 3.7. Administration and Management, 3.0 Economic, Social and Legal Sciences. Scientific specialty: Geoeconomics and Regional Demography, Higher Education Institution/ Scientific Organization: University of National and World Economy

Subject: Dissertation for awarding the educational and scientific degree "Doctor" in the scientific specialty Organization and Management of Production (by industries and sub-industries)

Basis for submitting the review: participation in the scientific jury under Order RD 16 -519// 22.04.2025 of the Rector of the Agrarian University.

Author of the dissertation: **Pavel Georgiev Chervenkov**
Topic of the dissertation: **Strategy for digitalization of the wine-growing sector**
Scientific supervisor: **Prof. doctor of science Petar Borisov**

1. Information about the dissertation candidate. As a doctoral student, Mr. Pavel Georgiev Chervenkov fulfilled all the requirements planned in the individual training plan. She has participated with four reports at national and international scientific conferences, has published the required number of articles in scientific journals with scientific review. As can be seen from the submitted Report on the fulfillment of the minimum national requirements under Art. 2b, para. 2 and 3 of the ZRASRB, Pavel Georgiev Chervenkov has the required points for acquiring the educational and scientific degree "doctor".

2. General characteristics of the presented dissertation work. The topic of the dissertation work is relevant due to the sustainable competitive development of the modern economy, it requires the imposition of perfect control over all business processes, in sub-sectors such as viticulture and winemaking and especially at the enterprise level digitalization is an essential management process. Thus, competitiveness increasingly relies on digitalization and skillful extraction of benefits from this process, benefits that can be turned into a competitive advantage over other market participants, which makes the present work distributable and important for the development of the wine regions in Bulgaria.

2.1 Structure and scope of the dissertation

The dissertation consists of an introduction, an exposition in three chapters, a conclusion and used literature. The dissertation is 137 pages long. The analysis in the dissertation research is illustrated by 5 tables and 48 figures. . The volume of the development is more than satisfactory.

2.2 Assessment for: topicality of the topic; goal; tasks; object; subject; main thesis of the dissertation

The dissertation is dedicated to the role of one of the components in social interaction and communications – digital communities in the agricultural sector. The significance of the researched issue stems from the specificity of the modern era of digital transformation, as well as the defense of the following main hypothesis that the digitalization of the sector is a critical factor in achieving competitiveness and competitive development of the viticulture and winemaking sector in our country. The author, doctoral student Pavel Chervenkov, justifies the relevance of the topic with the key role of digital communities in the success of business organizations in the viticulture industry, especially when they are engaged in competitive advantage. According to the doctoral student, viticulture enterprises and achieving an advantage for businesses have a significant role in initiating social changes, which not only improves the image of companies, but also contributes to sustainable social and environmental development. In this context, he brings out the need for digital communities engaged in the competitive environment to be managed through a comprehensive approach, including a clear vision, strategic planning, effective communication and cooperation between various stakeholders. Doctoral student Chervenkov focuses her research on the ways in which digital communities engaged in a social cause are built and managed, using modern digital tools and platforms. From this point of view, she correctly defines the subject of her research - the study is the viticulture and winemaking enterprises on the territory of the Republic of Bulgaria. A viticulture and winemaking enterprise is understood to be one in which viticulture is combined with winemaking, i.e. this enterprise owns vineyard plots and independently processes a part of the harvested grapes into wine products. The main research thesis of doctoral student Pavel Chervenkov related to the views on the improvement and implementation of management strategies of digital communities engaged in the development of a strategy for the digitalization of the viticulture and winemaking industry, taking into account the industry specifics with a view to their verification, aims to analyze the influence of digital communication strategies on the engagement and activity of digital communities. The dissertation seeks to assess the methods of managing and moderating digital communities and their effect on their sustainability, to study partnerships between businesses and digital communities in support of the development of the viticulture sector. To achieve these goals, the doctoral student Chervenkov defines specific research tasks, correctly justifying the limitations in their implementation, arising from the barriers to access to personal data and information, as well as limitations related to the scope of the study itself in thematic, geographical; time scope

2.3. Scientific literature used

The presented list of the literature used contains a total of 97 literary and information sources in Bulgarian and English, which is evidence of the good literary awareness of the doctoral student Pavel Georgiev Chervenkov on the issue. The references to the literary sources in the presentation of the dissertation are appropriate, which reveals the doctoral student's ability to carry out scientific selection and to be critical of other people's opinions and concepts when justifying his opinion on the researched problem. The literary sources are correctly used, in accordance with the accepted requirements for citation in scientific publications. My overall assessment: doctoral student Pavel Georgiev Chervenkov correctly substantiates the relevance of the issues she studies; correctly defines her main thesis and the limiting conditions for its proof; the subject and object of the study are clearly outlined and together with the correctly set goals and objectives determine the content and structure of the dissertation. The literature used is diverse, sufficient and focused on the research problem.

3. Evaluation of the obtained scientific and scientific-applied results

The main results of the study are presented in the individual parts of the dissertation. The first chapter is conceptual in nature and presents the evolution of digital communities from the point of view of modern agriculture, with its multi-functionality and complexity, as well as a possible key role in the sustainable development of society. This part identifies the characteristics of their management, and a detailed review and analysis of unique aspects in various theoretical models for managing digital communities from the point of view of viticulture and its importance in the agricultural sector is made. Doctoral student Pavel Georgiev Chervenkov correctly defines concepts specific to the researched issue, such as digital community and transformations in agriculture, and at the same time successfully systematizes the key factors in the process of building digital processes. In a theoretical aspect, the possibilities of various modern technologies and tools for managing digital communities and their role in agriculture, respectively the wine sector, are also presented. The importance of integrating technological innovations is emphasized, with artificial intelligence being training in the management of digital communities involved in viticulture and the production of products from the vineyard. This chapter also examines the specifics of the transformation of digital communities in relation to the available agricultural area for the organization of intensive agricultural production. Digitization and digitalization are considered as close concepts, in this direction, according to the author, doctoral student Chervenkov, the need to introduce electronization will increasingly increase. Due to the presence of environmental limitations in terms of the productivity of land resources as a result of the development of a new approach to management through the Internet, social networks and media, and artificial intelligence technology, according to doctoral student Chervenkov, it is necessary to change the way of managing viticulture. In summary, we can say that the more collaborative digitalization of agriculture allows for the widespread use of production and storage methods, which undoubtedly lead to great benefits in optimizing production efficiency, increasing the quality of production, and minimizing the impact and pressure on the environment.

In the second chapter, doctoral student Chervenkov outlines the main steps and elements in the strategic process of managing a digital community engaged in strategic planning of the digitalization process to increase sectoral competitiveness. The results of the analysis of various strategies and approaches applied for the effective management of such communities are presented. In view of the successful implementation of the management strategies of digital communities, doctoral student Chervenkov justifies the need to create engaging content for the community. The effects of the application of various techniques and practices for creating engaging content and interaction are analyzed, emphasizing the importance of developing the communication and creative platform, which has a role in digitalization in managing the competitiveness of wine-growing enterprises. The doctoral candidate also presents her view on the applicability of the digital platform related to challenges facing the implementation of precision agriculture in the wine sector and. In order to maintain a healthy and engaged community, in this chapter the doctoral candidate examines both the organizational structure and dynamics of digital communities, identifying the specific roles of the different members. One of the main obstacles to the widespread implementation of precision agriculture is the insufficient broadband infrastructure in rural areas, as well as the limited connectivity of devices - tractors, computers, tablets and smartphones, which collect and process data on agricultural processes. The doctoral candidate assumes that the interaction of policy and precision agriculture plays a major role. According to the author, regular monitoring through sensor networks is necessary to collect evidence and data on the impact of the CAP on the pressure that agriculture has on the ecology and social development of rural areas in the Member States. Data governance usually encompasses the organization, administration and management of data and aims to ensure a high level of data quality, processing accessibility and security. The digitalization of agriculture is creating more and more data from many different sources, processed by a wide range of actors along the value chain. This huge influx of valuable (and sometimes even risky) data affects the various actors involved in collecting, retaining, processing, exchanging and sharing this data. The use of robotic drones In my opinion, the developed theoretical framework for managing digital communities in the wine sector is significant for the theory, which unites key models, concepts and practices characterizing the process of their management. The established new connections between the wine sector and the management of digital communities, which expands the scientific field of research. From a methodological point of view, a significant contribution is the developed toolkit for monitoring, analyzing and evaluating the dynamics of digital communities in the wine sector. The results can be determined on the basis of this guidelines for the formation of strong and engaged digital communities to support social causes, as well as specific recommendations for improving the management of these communities, which are definitely of a practical and applied nature. In summary, I accept the claims for contributions made by doctoral student Pavel Chervenkov, which are formulated correctly and synthesized, and reflect the results of her work on the dissertation.

5. Evaluation of the publications on the dissertation

The publications are 4 in number and are related to the topic of the dissertation. It is evident that the publications reflect the main points of the dissertation work and provide the necessary publicity for the dissertation research.

6. Evaluation of the abstract

The submitted abstract is 31 pages long. The abstract is compiled in accordance with the requirements, reflecting in a synthesized form the content of the dissertation work, the thesis, the object and the methodology of the research, as well as the results obtained, and a declaration of originality is attached. The abstract also presents a summary of the contributions to the conducted scientific research. The summary is compiled correctly and reflects the scientific results achieved by the doctoral student Pavel Chervenkov.

7. Critical notes, recommendations and questions

I have no critical notes on the presentation of the ideas and statements in the dissertation work. I recommend that Pavel Chervenkov deepen her research on priority problems for her, arising from the relevance of her dissertation work and to popularize the results of this research in authoritative international and national publications. Considering the practical applicability of the results achieved by her, presented in the dissertation, I consider it appropriate to publish methodological guidelines for building and managing a digital community engaged in viticulture and fruit growing in general by using the resources of artificial intelligence technology. It would be interesting to hear the opinion of doctoral student Pavel Chervenkov on the following question: What are the indicators for effective management of digital communities engaged in the viticulture and wine sector?

8. Conclusion

The work presented by doctoral student Pavel Chervenkov has the qualities of a dissertation for awarding the scientific and educational degree "Doctor", as it presents its abilities to identify and research a current scientific problem, to summarize opinions, to study practice, to draw conclusions and to generate recommendations. The results and contributions contained in the work give me reason to give my positive assessment of the dissertation on the topic "Strategy for digitalization of the wine sector". Based on this, I recommend to the members of the Scientific Jury to award Pavel Chervenkov the scientific and educational degree "DOCTOR" in the scientific specialty Organization and management of production (by industries and sub-industries)

07.05.2025

Signature: ....

City of Sofia

(Prof. Dr. Kamen Petrov)