



## REVIEW

on dissertation work for awarding the educational and scientific degree „**Doctor**“  
in scope of higher education 3. Social, economic and legal sciences, professional field  
3.7. Administration and Management, scientific specialty Application of computer technology in  
economics

**Author of the thesis: Neda Venelinova Chehlarova**

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**Dissertation topic: Research of the e-business system in the context of increasing the digital  
and professional competencies of consumers**

**Member of the Scientific Jury: prof. PhD Marina Petrova Mladenova,**

University of Forestry, Sofia,

scope of higher education 3. Social, economic and legal sciences, professional field  
3.7. Administration and Management, the scientific specialty Application of Information and  
Computer Technology in the Economy

Appointed as a member of the Scientific Jury with Order of the Rector of University of Forestry  
No ZPS-530/from 10/17/2022

### **1. Compliance with the procedure.**

The set of materials provided to me on paper and electronic media is in accordance with the list of required documents for the defense of a dissertation for education and scientific degree "Doctor", according to the Law of the Republic of Bulgaria and the Regulations for its application in UF. It contains the following documents: an application by the doctoral student, the dissertation and the compendium for it, a declaration of originality within the meaning of Art. 27, para. 2 of PPZRASRB, reference for fulfillment of the minimum national requirements for the scientific and publishing activity, reference for the contributions related to the dissertation, bibliography of the published scientific articles on the dissertation, protocol of the preliminary discussion of the dissertation by the extended Department Council, notarized diploma of higher education Master's degree, specialty "Business Management" from UF, certificate of passing four exams in the specialty of the individual plan of the doctoral student, copies of the orders for enrollment and subtraction with the right to defense and information cards of NACID in Bulgarian and English. In the available documentation there are no signals and objections on the terms of the procedural steps, on the topic of the dissertation or on any reason for its development and course of defense, which requires the conclusion that the

documents meet all legal, moral and ethical standards for implementation. of the procedure for the defense of the developed dissertation.

## **2. Brief biographical data about postdoctoral student.**

Neda Venelinova Chehlarova studied and graduated from the Faculty of Business Management at UF in 2017 with a Bachelor's degree – Business Management and in 2018 Master's degree – Business Management. Since 2019, he has been a full-time doctoral student at UF. He speaks and uses the English language in his work and has excellent computer literacy and digital skills.

## **3. The actuality of the problem.**

The dynamic development of information and communication technologies, the huge variety of these technologies, the ongoing active processes of informatization and digitalization, affecting the increase in the number of electronic analogues of traditional business processes, directly affect the processes related to the use of the electronic business system of organizations and business entities from the consumer side.

Consumers are an important element in the successful functioning of the Digital Single Market, in which citizens and businesses have "seamless and fair access to online services and goods, regardless of their nationality and location", which is one of the European Commission's goals. Regardless of the fundamental knowledge and skills laid down and developed in the process of user training in the various educational levels, the e-business system in the context of changes in national, regional and international legislation and technological development depends to an increasingly greater extent on up-to-date and adequate specialized training enabling users to keep up with the latest trends in areas such as information security, communication, use of specialized devices and/or technologies, and others.

In the aspect of what has been said so far, the study of the e-business system in the context of increasing the digital and professional competences of users is very relevant.

## **4. Relevance of the topic of the dissertation and expediency of the set goals and tasks.**

The developed dissertation is thematically related to the application of the applied toolkit for development and planning of initiatives contributes to quick awareness of users about key or specific features of the ICT covered in the e-business system and for the development of digital competence of users in the context of development dynamics of the e-business system of organizations and business entities. The object of research is the current state of the e-business system within modern organizations and business entities in terms of the tools, technologies and resources used, having a direct impact on the users' work with them in the implementation of various business processes. The subject of research are activities initiated or organized by e-business organizations or business entities, to create conditions for the development of digital competences of users, necessary for successful and effective interaction with the e-business system of the organizations and business entities.

The aim of the dissertation is to investigate the main features and scope of the modern e-business system used in organizations and business entities, in the context of the need to increase the digital competences of the users of this system, which would guarantee the preservation of competitive advantages, overcoming the digital lag, acceleration of digitization and informatization processes and other benefits in the short, medium and long term.

#### **5. General presentation of the dissertation, knowledge and mastery of the issue.**

The text, together with 44 figures and 37 tables, is presented on 180 pages and includes an introduction justifying the topicality of the topic, aim and objectives, research methodology, three chapters, a conclusion, a list of cited literature containing 204 sources and three appendices. Five scientific and scientific-applied contributions are presented and a list of seven publications is presented. In connection with the dissertation – 3 in English and 4 in Bulgarian, with the last two publications from 2021 and 2022 being independent.

**IN CHAPTER ONE. Electronic Business System**, a thematically ordered and balanced review of the subject-related areas: Electronic Business; E-business models; E-business categories; Practices arising in the conditions of a pandemic, affecting the educational process; Normative regulations of e-business; Impact of the cloud computing paradigm; Scope of the concept of user and Classification of software products. The chapter ends with summary conclusions and a logical conclusion that research related to cyber security and the implementation of achieved results stand out as an important factor for the stability of e-business. Components of the e-business system of modern organizations and business entities shows clear trends regarding digitization in the modern world. The need for remote work capabilities with a guaranteed level of protection of critical data and digital assets has increased. The increased importance of cloud technologies for modern organizations and business entities also leads to the need for appropriate preparation for their use.

**IN CHAPTER TWO. Digital and professional competences**, the basic concepts in the scientific literature and strategic documents are examined, the research and practices to date are reviewed, and the development of the digital competences of users from some professional groups is presented. All examinations are systematized according to the tasks set. The chapter ends with summarized conclusions showing a very thorough research and understanding of the topic under consideration, as well as the possibilities of the doctoral student for analysis and drawing reasoned conclusions.

**IN CHAPTER THREE. Guidelines and measures for the development of the digital competences of consumers**, the Framework for competence of users in the field of digital technologies is presented; DigCompConsumers; Research and practice on consumer digital competence. On the basis of the reviews so far, well-systematized business activities are offered to support the development of the digital competence of users, which are suitable to be carried out independently by the business organization or in partnership. The results of the impressive number of interviews conducted with professionals from many different fields are presented: management of

distance learning in higher education institutions; director of information technology and cyber security; manager and cybersecurity expert; organizer of e-training for professional qualification; organizer of team activity in the field of arts; service technician; tourism trader; expert Risk assessment and traders (Underwriting Specialist); pensioner, over 80 years old. Based on an analysis of the digital competence framework for citizens, the digital competence framework for users, results of observations and expert assessments, short user support trainings systematized in the following modules are proposed: "E-users in e-shops"; "Rights and protection of e-consumers"; "E-Communication in an e-Environment"; "E-user in modern society"; "Working with QR code" and "Working with e-signature". For each module, the topics included in it are developed and presented, and an annotation of their content is given. In 2021, pilot trainings were conducted with teachers, students, mixed groups of users. An in-depth analysis of the achieved results of the pilot trainings for working with QR code and Electronic Signature was made. A SWOT analysis of the use of e-signatures from the users' point of view has also been made for the e-signature training.

In connection with the initiation and preparation of short trainings, a table was created with the areas of competence of DidCompConsumers from the point of view of classification in DidComp2.0. DidCompConsumers areas of competence are supported by concrete examples. Recommendations are made for activities through which business can assist in creating conditions for increasing the digital competence of users. They are aimed both directly at consumers and at the training of personnel communicating with consumers. The chapter ends with general conclusions.

In the overall development of the dissertation, the doctoral student shows a very good knowledge of the subject under consideration, opportunities for conducting independent research, analysis of the results and proposals for a practically oriented toolkit in the field under consideration.

## **6. Research methodology.**

The purpose of the developed work being developed is clearly and purposefully formulated, and it logically sets eight main tasks, which are also performed sequentially. The research methodology includes theoretical and empirical studies. The scientific methods of observation, analysis, concretization and summary, survey, interview, SWOT-analysis, experiment were used. Microsoft Excel was used to process the statistical data.

The description of the methods used is correct and consistent and gives reason to conclude that the doctoral student knows them and can work independently, as well as process the data obtained from them.

## **7. Evaluation of dissertation results (Discussion of the conclusions, contributions and publications to the dissertation).**

As a result of the development, the research thesis has been proven that the application of the applied toolkit for the development and planning of initiatives contributes to quick awareness of users about key or specific features of the ICT covered in the e-business system and to the development of

the digital competence of users in the context of the dynamics of development of the e-business system of organizations and business entities.

The author's approach consists in the proposed toolkit to help business organizations in planning and organizing activities to support the development of users' digital competence, as well as in the developed short trainings based on the framework for user competence in the field of digital technologies, the framework for competence in the field of digital technologies for citizens, of observations and expert assessments, and as well as the established growth of e-commerce and cyber security activities.

I accept in substance the formulated conclusions, as they are made on the basis of the implementation and results of the tasks of the dissertation work and are reflected in the general aspect of the dissertation. The conclusions are argued that for the successful functioning of the single digital market, users are an important element and that the improvement of the digital competence of a large part of the users also contributes to the improvement of their professional competence; for the development of digital competence, the age, personal and professional characteristics of the person are important, and therefore it is appropriate to organize both events for the user in general, and events for a specific audience of users and forming user groups.

The contributions derived from the developed scientific work are also of proven scientific and applied value, and for me, the created and tested toolkit for the development and planning of initiatives aimed at increasing the digital competences of users in the context of the dynamics of development is of great applied value and relevance of the e-business system of organizations and business entities.

In connection with the developed dissertation, a list of seven publications, two of which are independent, presenting essential elements of the research is presented.

The publications meet the criteria of the Regulations for application of the Law on Public Procurement of UF and the requirements of NACID and have fulfilled the criterion for publication activity.

#### **8. Critical notes and questions.**

I have no critical notes.

#### **Questions:**

1. Can the doctoral student synthesize recommendations for using the obtained results in practice?
2. The topicality of the issues discussed in the dissertation makes it possible to determine the main directions for additional studies on this topic, what they are according to the doctoral student.

## **9. Personal impressions.**

I have known Neda Venelinova Chehlarova since the time when she was a first-year student at FBM. I have followed her growth since then as a doctoral student and teacher. During the academic year 2021/2022, she taught exercises in the discipline "Computer systems" for the students of the 1st year, majors in Business Management and Alternative Tourism, of which I am a holder. She is a very well organized, responsible, executive and ethical person. Has the skills to work in a team. Has the necessary rhetoric when working with students and shows the ability to involve them in the learning process, capture their attention and gain their respect.

## **10. Conclusion.**

Based on the various research methods mastered and applied by the doctoral student, correctly performed experiments, summaries and conclusions, I believe that the presented dissertation corresponds to Regulations for application of the Law on Public Procurement of UF, which gives me reason to evaluate it **POSITIVE**.

I allow myself to suggest to the esteemed scientific jury to evaluate positively and to award **Neda Venelinova Chehlarova** Educational and Scientific Degree "**Doctor**" in a professional field, 3.7. Administration and management, scientific specialty "**Application of computer technology in economics**".

**Prepared review:**

/prof. ~~PhD~~ Marina Mladenova/

**The review was submit:** (Date) 11/28/2022