



REVIEW

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

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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. Eng. Dimitar Hristov Tehchev, PhD,

University of Chemical Technology and Metallurgy, scope of higher education 3. Social, economic
and legal sciences, professional field Economics, the scientific specialty “Economics and
Management”

Appointed as a member of the Scientific Jury with Order of the Rector of University of
Forestry No ЗПС-530/ from 17.10.2022 on the procedure and at its first meeting was elected
reviewer of the procedure for the defense of the dissertation.

1. Compliance with the procedure.

In accordance with the Academic Staff Development Act in the Republic of Bulgaria and the Rules of UF for its implementation, at the first meeting of the scientific jury, I was provided with a set of materials on paper and electronic media, corresponding to the list of required documents for the defense of a dissertation work for awarding the educational and scientific degree "Doctor". The set of documents provided includes: application by the doctoral student; dissertation work and abstract to it; declaration of originality within the meaning of art. 27, para. 2 of Academic Staff Development Act in the Republic of Bulgaria; certificate of fulfillment of the minimum national requirements for scientific and publication activity; report on the contributions related to the dissertation work; bibliography of published scientific articles on the dissertation; protocol of the preliminary discussion of the dissertation work of an extended Departmental Council; European version of the doctoral candidate's CV; notarized diploma for higher educational qualification degree "Master", specialty "Economic Management" from Forestry University; a certificate for passing the four exams in the specialty from the doctoral student's individual plan; copies of the crediting and deducting orders with the right of protection; NACID information cards in Bulgarian and English.

Regarding the procedure, there are no signals and objections on the terms of the procedural steps and the course of the defense, on the topic of the dissertation or the developed work itself, which allows me to make a reasonable conclusion that the documents meet all legal, moral and ethical norms in the context of the implementation of the procedure for the defense of the developed dissertation work.

2. Brief biographical data about postdoctoral student.

The author of the dissertation has the necessary qualifications, work experience, education and experience, which is evident from the presented resume. He obtained a bachelor's degree in "Business Manager" in the period 2013-2017 and a master's degree in "Business Manager", 2017-2018 at UF, Sofia. Since 01.07.2019 she has been enrolled as a full-time doctoral student in professional direction 3.7. Administration and management, scientific specialty: "Application of computing technology in the economy". to the Department of Computer Systems and Informatics, Faculty of Business Administration, UF Sofia, with supervisor Assoc. Dr. Radoslav Iliev Miltchev with a training period of three years. She passed all the exams planned in his individual study plan. She also published 7 scientific publications on the subject of her dissertation. She was dismissed with the right of defense on 02.07.2022 by order No. ZSD-210/02.07.2022 of the rector of UF.

3. The actuality of the problem.

The all-round penetration of electronic tools into everyday life poses more and more new challenges to users. E-commerce and, more generally, e-business are becoming routine tools that massively enter all sectors of the economy, but at the same time affect users in social, public and even personal terms. The trend towards digitization of administrative services, e-governance and, in recent years, even voting by electronic machines, bring to the fore the low preparedness of people to adequately meet these challenges and take advantage of the enormous advantages they offer, even in many spheres there is talk of a "digital divide". All these factors, adequately substantiated in the research, show the relevance of the issue under consideration, namely that there are serious prerequisites requiring an increase in the digital and professional competences of users.

From the publication activity of the doctoral student, it can be judged that he has a pronounced systematic interest in a very topical issue of our time, namely electronic business and the digital readiness of users in this context. In my opinion, Neda Chehlarova's interest and scientific research make a significant contribution in revealing the bottlenecks and problematic aspects of this contemporary challenge.

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

The author of the dissertation presented to me for review demonstrates a thorough knowledge of the subject and related problems.

The purpose, tasks, subject, object and scientific thesis of the dissertation are formulated in the introduction. They once again, in a categorical way, define its relevance and support the consistent presentation of the conducted studies and research, the analysis of the results, the summaries on each topic and form the basis for the development of relevant recommendations for the improvement of the considered processes and problems.

The purpose of the research planned and carried out by the doctoral student is related to the study of 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 preserving competitive advantages, overcoming the digital lag, accelerating digitization and informatization processes and other benefits in the short, medium and long term.

for users the effective use of information and communication technologies, both types are important, page 62.

In the course of the exhibition, the levels and content of the qualification framework regarding secondary and higher education were distinguished. In this regard, the author conducts a relevant study of good practices in secondary and higher education. Logically, the emphasis is placed on the practice of UF in this context.

Quite correctly, PhD student Chehlarova identified the COVID-19 pandemic as a catalyst for the rapid adaptation of the educational system to the new realities. The author's research is also deployed in relation to economic life and business.

It has been established that the problems of improving training programs in organizations are to a high degree related to the same problems as in education. Other aspects have been added, such as performance appraisal, cyber security, linkage to career development, job specifics, etc. On page 72, it is argued that it is appropriate to consider e-business users not only as individuals but also as groups. If this is the opinion of the author, it should be emphasized in a more categorical way.

On the basis of a study carried out on the digital competence of employees from the state administration and students from TU Sofia, statistical data have been derived that show a difference in attitudes, skills and the use of electronic and Internet environments. In the conclusions to this chapter, the doctoral student makes a number of adequate generalizations. On their basis, and on the basis of the conclusions from the first chapter, logically follow the developed and proposed measures for the development of the digital competences of the users, presented in the third chapter of the dissertation work. I believe that at this stage, the development, regardless of the relevant inferences and conclusions drawn, would benefit from a summarizing conclusion to emphasize the outcome of the research, namely the answer to the question "So what?". Such a conclusion would allow a natural transition to the subsequent research carried out by the doctoral student and covered in the third chapter, which are determined precisely by the results and conclusions reached in the second chapter.

In the dissertation, a comparative study of the availability of educational disciplines related to the development of digital competences at the bachelor's and master's level in higher education institutions in Bulgaria was conducted. It confirms the finding that in the majority of cases the emphasis is on basic knowledge and less often on the holistic development of these competencies.

The third chapter, as it was said, is dedicated to offering measures for the development of the digital competences of users. The presented framework for such competence has been developed with the support of the European Commission and the JRC Joint Research Centre. Its key goals and areas of application are systematized and personalized needs are defined in accordance with the levels of competence in the respective countries.

A study of the National Statistical Institute on the use of information and computer technologies by households and individuals, specifically in Bulgaria, is presented. A consistent trend of a decrease in the share of people who have never used the Internet was established. In addition, the specific digital skills of individuals who use ICT have been identified, with an increase in their share in recent years.

A study by the Consumer Protection Commission on the most frequent objections (complaints) from consumers related to the activities of unfair traders in the field of e-commerce is also presented. Regarding trade in dangerous products, a study of the European Safety Guard system is presented.

The subject of research are activities related to e-business, initiated or organized by organizations or business entities, with the aim of creating conditions for the development of digital competences of users, necessary for successful and effective interaction with the e-business system of these 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 work of users with them in the implementation of various business processes.

A research hypothesis is aimed at the application of the applied toolkit for the development and planning of initiatives and the ways in which it contributes to the rapid awareness of users about key or specific features of the ICT covered in the e-business system and 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.

To achieve the goal, a complex of five tasks has been formulated, and I believe that the most significant of them is the creation of a toolkit for the development and planning of initiatives aimed at increasing the digital competences of users in the context of the dynamics of the development of the e-business system of organizations and business entities. It is a logical consequence of the wide-ranging research that preceded it.

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

The dissertation presented for review is developed and structured in three chapters, Introduction, Conclusion, Appendices in a total volume of 178 pages. 205 sources of information and scientific research are indicated, of which 117 are in Bulgarian and 88 in a foreign language. In the Appendices there is a List of Tables - 37 in number, a List of Figures - 44 in number and 3 numbers of surveys for the needs of the conducted scientific research.

The first chapter is devoted to the study of the dynamics of the development of the e-business system. The essential advantages of e-business related to optimization of processes and costs, control and monitoring, marketing and advertising, etc., as well as some of the problems in its application and use, are brought out. The main e-business models and categories are reviewed. The new practices determined by the turbulence in the surrounding environment, the normative regulation of e-business, the context of the concept of user, the types of software products are systematized.

Allow me to remark on the term SOLVITE, which appears on page 45, and does not state where it comes from and what it represents. In the presented conclusions to the first chapter, trends are indicated, but there is no clear answer to the question "What of this?" It would be nice to present the PhD student's own opinion more clearly, something that is actually lacking in a sufficiently complete form regarding the aspects under consideration. A similar final summary in the conclusion section would allow for a smoother transition to the research carried out in the second and third chapters, which are conditioned precisely by the conclusions drawn in the first chapter.

The second chapter is dedicated to digital and professional competencies as an object of education and development. The key concepts used in the scientific literature are defined. A number of strategic documents regulating the meaning and content of the term competence have been systematized, with the emphasis being placed on those referring more specifically to digital competence. Hard and "soft" skills are relevantly structured, and it is adequately emphasized that

In conclusion, I can draw the following conclusions, namely: the dissertation work has been developed and shaped professionally, according to BDS with logical traceability of the development of reasoning and supported by appropriate comments, examples and arguments; the author demonstrates in-depth knowledge of the subject and related issues; the doctoral student makes adequate summaries and conclusions, which support the sequence of the planned and carried out research, and which allow the initially set tasks to be fulfilled; the volume and the literature study meet the requirements for a dissertation related to the scientific specialty and the professional direction.

6. Research methodology.

As I have already pointed out, the dissertation work has a clearly defined goal, subject, object and tasks, as well as an adequate research hypothesis, allowing to develop the research potential of the doctoral student for the solution of an actual problem within the e-business system of organizations and business entities. The methodology used is in accordance with the scientific specialty and professional direction of the doctoral student and includes the necessary set of theoretical and empirical studies, guaranteeing the achievement of the set goals. The scientific methods used include: observation, analysis, concretization and generalization, survey, interview, SWOT-analysis, experiment.

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

Based on the results of the conducted research, it is concluded that there is a lack of sufficient and adequate digital competence of the users and a significant need and additional efforts are outlined for training both the users and the employees serving the online stores and other organizations serving the electronic business generally. Regarding e-commerce, the practices of leading e-commerce companies in the country have been studied and the main applied supporting activities to help the merchant-customer tandem have been identified. Regarding the payment of the transactions, where the banks also participate, a study of the skills and problems in the use of electronic payments was conducted.

As a summarizing conclusion from the results of all the studies, an opinion is presented that at this stage, along with the Internet information, helping customers to interact with the suppliers of goods and services, it is necessary to maintain an additional telephone consulting service.

To the toolkit improving the digital interaction between customers and suppliers, updating the professional characteristics of some of the studied positions is also proposed. In a relevant way, activities have been identified and proposed by businesses aimed at improving the digital competences of their users with a view to achieving higher efficiency and effectiveness of their partnerships by offering and implementing adequate supporting training. In point 3.4, on the basis of surveys conducted among relevant specialists (I emphasize that this is a personal development of the PhD student), the areas in which it is appropriate to conduct training in the context of the user competence framework are indicated. I would like to make a recommendation. The way the presented research is structured (interviews with experts) and the proposed areas of study should be more clearly demarcated, page 133. The questions and answers to the surveys end, but I feel that a subheading is needed to highlight the courses offered below.

Two sample trainings are presented in the development - For working with QR code and Electronic signature. The term "Study Plan" is somewhat too pretentiously stated for each of them. In an academic context, the details described do not correspond to the understanding of a curriculum. Also, too much and, in my opinion, unnecessary emphasis is placed on the argumentation of why such training is necessary. This is especially true for Work with an electronic signature.

Regarding the conclusions to this chapter, I have the following remark. On page 152 it is declared that "a toolkit has been created for the development and planning of initiatives..." In this regard, I believe that a PhD student could come up with a working definition regarding the term toolkit.

In connection with the conclusion of the dissertation work, I would like to draw the attention of the doctoral student that he must more categorically state the achievement of the goal set at the beginning, as well as the fulfillment of the tasks and the confirmation of the research hypothesis. It is necessary for the doctoral student to show greater confidence in terms of the results achieved, a confidence that is likely to be manifested in the future, because the results achieved and the demonstrated capacity to work with the categories set in the dissertation show that the doctoral student has the necessary potential and qualities for a successful researcher.

Seven scientific publications are presented, entirely in the context of the development, which were published at prestigious scientific forums in the country, including in editions indexed in Scopus. They definitively shape the idea of in-depth research and knowledge of the topic under consideration in the dissertation work and demonstrate the specific interests of the author.

At the moment, no citations of the author from scientific or other circles have been presented.

In conclusion, I consider that the doctoral student has fulfilled the set of activities on the dissertation work, the research is a personal development of the doctoral student, and the presented four contributions in the dissertation work, in my opinion, can be classified primarily as contributions of an applied nature.

8. Critical notes and questions.

First of all, I want to emphasize that the dissertation is a completely independent product of doctoral student Neda Chehlarova, and I have not noticed any elements of plagiarism in this sense. I would again like to recommend the author in her next scientific developments to more clearly emphasize her own opinion and understanding on the topics under consideration, something that in the present development is less represented in places.

As a strength, I would note the right approach from the general to the particular in the context of reaching the need to develop specific at least two trainings. The actuality of the digitization of life, the international and local regulation of knowledge and skills in this area, the lack of such among Bulgarian users, the specific problems and fears of people from the use of e-services and the identification of the content and form of training are adequately outlined a way to increase users' digital skills.

Other observations and recommendations are presented in the text of the review above and I think it is not appropriate to repeat them.

9. Personal impressions.

I do not know the doctoral candidate Neda Chehlarova and I have no direct impressions of her performance within the Forestry University and beyond.

10. Conclusion.

In conclusion, I would like to declare my positive assessment of the dissertation work presented by Neda Venelinova Chehlarova. It meets the requirements of the Academic Staff Development Act in the Republic of Bulgaria and the Regulations of UF Sofia and covers the scientometric indicators for the acquisition of the educational and scientific degree "doctor". I take the liberty of proposing to the honorable Scientific Jury to vote positively and award Neda Venelinova Chehlarova the educational and scientific degree "Doctor" in professional direction 3.7. Administration and Management; scientific specialty " Application of computing in economics ".

Reviewer's signature:

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The review was submit: (Date) 14.12.2022