

## **Expert Opinion**

by Assoc. Prof. Dr. Kristian Stoyanov Hadjiev, NBU, Department of Administration and Management, Professional Field 3.7 "Administration and Management", scientific specialty 05.02.20 "Social Management"

Subject: Presented dissertation for the acquisition of educational and scientific degree "Doctor" in the scientific specialty "Social Management", professional field 3.7 Administration and Management

Author of the dissertation: Apostol Ustiyarov Mushmov - PhD student in self-study in the doctoral program "Business Administration" - NBU

Dissertation topic: "Innovative gamification models and tools used in corporate CRM strategy"

Scientific adviser: Assoc. Prof. Dr. Eng. Kiril Radev

Grounds for presenting the opinion: member of the Scientific Jury, according to Order № 3-PK-88 / 06.01.2022 of the Rector of NBU - Prof. Plamen Doinov, Ph.D.

The opinion has been prepared in accordance with the Law on the Development of the Academic Staff of the Republic of Bulgaria, the Regulations for the Implementation of this Law and the Ordinance on the Development of the Academic Staff of the NBU.

### **1. General characteristics of the presented dissertation**

The peer-reviewed dissertation consists of 208 pages and includes four chapters, introduction, conclusion, summary of scientific and applied contributions, list of tables, figures and abbreviations used in the text, bibliography and 3 appendices. The main text is 147 pages and contains 15 tables and 28 figures. There are 39 pages of applications related to the research in the dissertation. 173 sources in Bulgarian, English and Russian are included in support of the exhibition. The presented dissertation is dedicated to a very current topic related to human capital management in the context of globalization and dynamic economic relations in the international aspect. The focus of the research is on the relations between the new forms of organizing people's work, their evaluation, involvement, increasing motivation and engagement, through the introduction of gamification models and tools. The detailed evolutionary analysis of motivational theories in management, new progressive theories in the social sciences, as well as modern theories of corporate culture and leadership enhance the importance of the issues studied by the doctoral student. In this context, the statements, ideas and proposals contained in the dissertation for the development of a software platform for motivating employees with gamification elements also have a practical and applied nature.

The dissertation is balanced, the issues are presented in their logical sequence and coherence, the style of the presentation is scientific, the technical layout is excellent. The goal and the tasks are connected and rich and fully correspond to the topic of the dissertation. The main scientific problem is correctly formulated, and its boundaries are precisely defined. The research tasks, the object, the subject and the main thesis of the research are clearly and specifically stated. A methodology has been developed that is completely sufficient to achieve the objectives of the study. The concepts and terms used in the dissertation are specified. The used literature is as close as possible to the topic of the dissertation and gives a sufficiently complete picture of the state of the researched problem. The literature sources are arranged according to the requirements of the adopted standards, but are not numbered. The doctoral student analyzes and systematizes a significant volume of literature sources on the topic, which are cited correctly in the text. An own critical interpretation of the ones presented in them has been made. The

text is successfully illustrated with many tables, figures and diagrams, which significantly contribute to its understanding. The results of the research are presented clearly, logically and understandably. From what has been said so far, I come to the conclusion that the ultimate clarity of the doctoral student on the above issues is one of the prerequisites for the high quality of the entire dissertation.

## 2. Evaluation of the obtained scientific and scientific-applied results

The structure of the dissertation is built in accordance with the formulated goal and the detailed tasks. The introduction to the dissertation contains all the necessary "requisites": convincing justification of the problem and its significance; clear and precise formulations of the goal (decomposed into four sub-goals) and research tasks, the object and subject of research; The conditions under which the study itself was conducted have been identified.

In the **first chapter**, the doctoral student clarifies the conceptual apparatus, fundamental concepts and relations related to new progressive theories in the social sciences (Abell, 2000; Neeley, 2018), behavioral economics (Ajzen, 1991; Eyal, 2014), motivational theories (Lawrence and Noria, 2002; Pink, 2012), theories of corporate culture (Trompenaars & Hampden-Turner, 2004) and leadership (Bass, 1990; Albrecht, 2006), but also the development of the sciences of algorithmization of complex processes and machine learning, processing of big data (Wu, 2018; Todorova, 2019). The aim is to identify common intersections and logical connections with the theoretical foundations for building a gamified system of motivation (GSM). The examination of the theoretical aspects is rather fragmentary, looking for specific tools to be built into the systems of management and engagement of people to achieve pre-defined goals. From the first chapter the degree of elaboration of the research problem becomes clear and the theoretical basis is formed, on the basis of which the doctoral student derives the main research thesis. The conclusions reached by the doctoral student are reasonable, supported by solid arguments. The research in the first chapter is very thorough and is the necessary basis for developing the methodology of empirical research.

In the **second chapter** the doctoral student presents and argues the author's research methodology, which includes a set of tools, models and techniques according to specific goals, sub-goals, hypotheses and tasks. Based on interdisciplinary analysis and synthesis, as well as the application of a systematic approach, the whole palette of complex relationships in the process of building a gamified system in organizations is identified. In addition, there is a study of objects, problem situations, relevant situations, justification of classifications, systematizations and emerging issues. The approach for comparison and juxtaposition of objects and tools, abstraction (extraction of common features), concretization (search of abstract models and images in new objects) is widely used. There are many summaries, judgments and formalizations. The methods of induction and deduction are used for the transition from the concrete to the general and back to the private in the creative realization in creating the system, many analogies and modeling to utilize the theoretical accumulations in the end result. The developed methodology is based on mathematical models for data analysis (principal component analysis and cluster analysis) and on statistical methods for analysis of the significance of differences (such as t-test), and in some cases results were sought in connection with the definition for clinical significance. Methods of data collection include online surveys, interviews, automatic retrieval of data from the system's registers. The conclusion that is necessary is that the author through a unique approach introduces a number of new moments, both in the process of creating a GSM and in the interpretation and understanding of the environment in which it is implemented.

At the end of the second chapter, as well as the first chapter, the relevant specific conclusions and recommendations are made.

In the **third chapter**, based on the methodology developed by the author, the subject is studied - the creation and effectiveness of gamified systems for employee motivation (from idea to implementation) through the prism of different typological groups. Elements of the hypotheses are verified on the basis of a detailed multidisciplinary qualitative and quantitative justification of the immediate results of the research.

In the **fourth chapter** the author analyzes and offers adequate solutions to the studied problems, systematizing and summarizing the recommendations for social and organizational practice.

The performed information processing unequivocally shows the presence of own contribution to the collection and analysis of empirical data.

The **conclusion** is that in all four substantive chapters, the doctoral student shows skills for clear identification and scientific defense of their views related to the need for new, adapted and flexible approaches and methods of human capital management (innovative gamification models and tools used in the corporate strategy for customer and staff relations management).

**Result** of the dissertation research: confirmation of the formulated main research thesis.

### **3. Description of the scientific and scientific-applied contributions**

The dissertation is a serious scientific study of a topical and significant problem. The main contribution points can be considered and evaluated in two groups - scientific-applied contributions and practical-applied contributions. I accept the 4 scientific and 2 practical contributions fully formulated by the doctoral student.

### **4. Impact of the dissertation on the external environment**

Seven publications have been made on the topic of the dissertation (two are co-authored), in renowned specialized national and international publications, which indicates that a number of ideas and conclusions formulated in the study are available to a professional audience. All of them reflect specific aspects of the doctoral student's research work and provide the necessary publicity.

### **5. Evaluation of the abstract**

The presented abstract reflects correctly the content of the dissertation. It summarizes the main points of the dissertation: general characteristics; content and structure of the work; scientific contributions; publications on the issues of the dissertation.

### **6. Critical remarks, recommendations and questions**

I have no critical notes, recommendations and questions on the presentation of ideas and statements in the dissertation.

### **7. Conclusion**

The presented dissertation shows that the author has in-depth knowledge of the issues studied by him. The topic of the dissertation is a present day question and significant in scientific and practical-applied aspect. The dissertation is a fully completed scientific and practical-applied research, which meets the requirements of the Academic Staff Development Act, the Regulations for its implementation, as well as the internal regulations of the NBU for awarding educational and scientific degree "Doctor". In his

research, the doctoral student shows that he has the ability to conduct independent research and obtain specific scientific and applied research results and contributions.

All this gives me reason to give a positive assessment of the dissertation and to suggest to the esteemed members of the scientific jury to decide to award the educational and scientific degree "Doctor" of Apostol Ustiyarov Mushmov in the scientific specialty "Social Management" in professional field 3.7 " Administration and Management".

Sofia,

Signature:

March 3, 2022

/ Assoc. Dr. Christian Hadjiev /