D. A. TSENOV ACADEMY OF ECONOMICS, SVISHTOV

REVIEW

Reviewer: Assoc. prof. Veselin Dimitrov Popov, PhD, professional field 05.02.08 „Application of Computing in Economics, Department of Business Informatics; D. A. Tsenov Academy of Economics – Svishtov.

Basis: Pursuant to Article 70 of the Rules for the Development of the Academic Staff at D. A. Tsenov Academy of Economics, Svishtov, a decision of the Faculty of Management and Marketing to initiate a public defence procedure, and Order No. 636/28.06.2024 by the Rector of D. A. Tsenov Academy of Economics, Svishtov.

Author of the Dissertation: Martin Olegov Aleksandrov, PhD student in Professional Field 3.8. "Economics", Doctoral Program "Application of Computing Technology in Economics" at the Department of Business Informatics, D. A. Tsenov Academy of Economics, Svishtov.

Dissertation topic: "Business model for competitive open science".

Scientific Supervisor: Professor Krasimir Shishmanov, PhD.

I. General presentation of the dissertation:

The main research thesis of the scientific study is that Bulgarian scientific publications can be integrated into the world scientific and information space through an adaptive and open system that will help to improve the business processes related to the publication activity of a scientific journal. In this direction, the approach for implementing a web-based open-source system for managing scientific journals (Open Journal System – OJS), developed by Public Knowledge Project (PKP).

The aim of the dissertation is to develop a strategy for adapting the business model of a scientific publication to the principles and requirements of the "Open Science" concept.

1. The subject of research in the dissertation is the process of integration of Bulgarian scientific publications in the world scientific and information space.

2. The subject of research is the adaptation of a scientific journal to OJS (following the example of the journal "Business Management").

3. *Structure*. The presented dissertation contains an introduction, three chapters, conclusion, bibliography, appendices, list of terms and abbreviations used, list of figures, list of tables. 24 figures and 8 tables are included in the main text. The development is in *a volume* of 163 pages. The dissertation work is well structured, there is a logical sequence between the chapters.

4. *The list of used literature* includes 148 literary sources. Of these, 40 are in Bulgarian.

5. *Applications.* There are eight appendices to the dissertation work, and the text in the appendices is 42 pages long.

II. Assessment of the form and content of the dissertation.

1. *Assessment of the relevance and development of research in the dissertation scientific problem*

The dissertation is dedicated to *a current scientific problem* related to digital transformation and the integration of scientific publications in international scientometric databases. The introduction outlines current affairs as it relates to the production, processing, storage and exchange of vast arrays of multidisciplinary information. It is indicated that the digital transformation forms new mechanisms of interaction between the members of the scientific community, related to providing free, open access to all scientific information, integration of periodicals in the world scientific and information space. The reasons that prompt university publishing houses to take active steps to include publications in international scientometric databases are outlined.

The introduction meets the requirements by clearly stating the object, subject, purpose, objectives and research thesis. To achieve the research goal, the author sets himself five tasks, of which two are theoretical and three are practical. *The tasks* have been completed at a good level.

The methodology used is described in the introduction. Research methods and approaches are applied, including system analysis, comparative analysis, system approach, economic analysis, modelling method. In addition, visualization and prototyping methods and techniques were used to test the results. The approaches and methods used can be defined as appropriate and effective.

Restrictive conditions have been formulated, which allow the author to focus in the outlined direction of research.

The proposed author's method has been tested experimentally. The main results of the research have been implemented in D. A. Tsenov Academy of Economics – Svishtov.

The *first chapter* explores the Open Science initiative for the sharing of scientific resources. Challenges in open access publishing and intellectual property protection are outlined. The essence is presented and the systems for scholarly electronic libraries, institutional repositories, electronic archives and electronic journal systems are explored. The characteristics of the best systems in the world, as well as those operating in Bulgaria, of this type are described. The unification of scientists and scientific publications is considered, and in this connection two problems are formulated that require a solution. Emphasis is placed on policies for the development and validation of scientific research in Bulgaria. The problems and challenges facing the scientific community in conditions of globalization and competitive environment are outlined, the actions taken are indicated.

The second chapter is devoted to the peculiarities of building a business model of a scientific journal. The concept of business idea, business model and business strategy is

presented by presenting definitions of the concepts and adopting the appropriate ones for the purposes of scientific research. The author proposed an opinion on a business model. Emphasis is placed on business models. Porter and Business models are commented Model Canvas. The process of submitting and publishing an article in a scientific journal as a business model is explained. A road map has been created, which includes two distinct stages with planned activities. The results of the creation and analysis of the road map are presented. The need to move to a new business model is indicated. The stages, activities and tasks for the preparation for switching to a new business model are presented. The possibilities for adapting a business model are presented. The online methods for implementing the business model are described.

In *the third chapter,* the realization of the business model for adaptation of "Business Management" magazine to OJS is described. The author points out that the business model offering the procedure for introducing a scientific journal into an Internet-based system for serving, maintaining and managing electronic publications with the help of OJS was adapted for a scientific journal "Business Management" of D. A. Tsenov Academy of Economics – Svishtov. The author's idea was tested experimentally, initially on a test server. The implementation of the proposed solution uses an academic server, and the main results are implemented in D. A. Tsenov Academy of Economics. The research methodology and implementation stages are described, which is based on the adapted version of Quint-Rapoport. The methodology includes six stages in which the related activities are described. At the end, conclusions and perspectives for further research are formulated. The actions that were performed at the experimental stage, the definition of functions and roles of system users, setting up the system and the use of statistical data are described.

The main conclusions are formulated after the third chapter. The main results of the dissertation are described, which confirm the research thesis formulated by the author. The Measurability section outlines the direction for impacting the outcomes of implementing the open science business model.

In *the conclusion,* the author made recommendations regarding the possibilities of using the results of the scientific research and formulated the main conclusions.

2. Opinion on the language, volume and instrumentation of the dissertation work.

The style used in the dissertation is scientific and shows the good theoretical preparation and practical experience of the doctoral student in the researched field. The volume of the dissertation work is 163 pages (main text), which corresponds to the requirements for scientific research of a similar kind. The individual chapters are proportionate and connected in a logical sequence. A sufficient number of figures (24 pcs.) and tables (8 pcs.) have been used, which help to visually present the content.

The citation is correct, the sources are indicated under the tables and diagrams, which clearly outlines the author's contribution - whether it is foreign, adapted or the own development. A large number of literary sources were used - 148. In the list of used literary sources, there are five in which Martin Aleksandrov is a co-author or author (without claiming to be exhaustive), which shows the active involvement of the doctoral student in publication

activity on the topic of the dissertation work.

The toolkit used includes research methods and approaches, including systems analysis, comparative analysis, systems approach, economic analysis, modelling method, visualization and prototyping techniques.

From the received *uniqueness report* (appendices are excluded from it, some of which are normative documents published on the websites of D. A. Tsenov Academy of Economics and Elsevier) it can be seen that in the check for the length of the phrase KC 1 the correspondence is 21.26%, and length in words KC 2 is 13.94%. This repetition can be said to be within the permissible limits, considering that it includes one report (7.41% repetition) of the PhD student and his supervisor, terms, enumerations and parts of normative text.

The abstract meets the requirements and accurately reflects the content of the dissertation.

III. Scientific and scientific-applied contributions of the dissertation.

The dissertation contains scientific and scientific-applied contributions. I accept all author-defined contributions.

I can point out the following scientific contributions as the most significant:

- Universal, functional models of a web application processing data in real time are proposed, which can be used as a basis for the development of a software application serving the needs of a scientific publishing house / magazine and solving to a large extent their technological problems.
- A method for using electronic open journals has been developed and described;
- A software prototype was developed based on the proposed universal, functional model in order to establish the success and applicability of the model. By the time the research was completed, the prototype had been running for more than six months successfully in a production environment with minimal maintenance.

As the author points out, the proposed application model is universal and can be applied to different scientific journals within the university.

The dissertation offers development of the concept of "Open Science" and upgrading with a business model of a scientific publication and its approval.

Information is available that *the ideas and results proposed by the doctoral student* have found an echo and recognition in the specialized scientific literature. A good example of this is the Multi - Website report Single - Repository Architecture for E - Journal Web Platform, in which the PhD student is a co-author, which is indexed in Scopus and has citations.

IV. Dissertation recommendations and notes.

All important notes and recommendations that I have made to the dissertation work in the process of its discussion are reflected. I have no recommendations for the presented final version of the dissertation work.

I have one question for the author of the dissertation, namely: What approach can be used for the adaptation of several scientific publications in one university to Open Journal System?

V. Summary evaluation of the dissertation work and conclusion.

The dissertation has the structure and volume necessary for such a type of scientific research. A considerable number of literary sources have been studied.

The dissertation has a theoretical and a practical part. The most important of the practical part is the developed prototype, which has been running successfully for more than six months in a production environment.

The dissertation shows that the candidate has in-depth theoretical knowledge and practical skills for independent scientific research and meets the requirements of Regulations for the development of the academic staff in D. A. Tsenov Academy of Economics – Svishtov.

Based on the above, I believe that the dissertation work of Martin Olegov Aleksandrov represents an independent study on an actual and significant problem, both for the theory and practice of information technologies. The work contains the necessary scientific and scientific-applied contributions and meets all the requirements and criteria for awarding the educational and scientific degree "Doctor".

All this gives me the reason to give a positive rating "Yes" for awarding the educational and scientific degree "doctor" in the scientific specialty "Application of computing technology in the economy" to Martin Olegov Aleksandrov.

29.08.2024

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(Assoc. prof. Veselin Popov, PhD)