REVIEW

by Prof., Doctor of Economics Britchenko Igor Gennadievich

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of a dissertation for award

of the scientific degree "Doctor of Science" in the field of higher education 3. Social, economic and legal sciences, professional field 3.8. Economics doctoral program Finance, Insurance and Social Security

Author: Dr. Maria Borowska

Topic: "Increasing the financial and economic competitiveness of logistics companies using analytical models "

1. General description of the submitted materials

By order № 82 of 08.04.2021 of the Rector of the Higher School of Insurance and Finance Assoc. Prof. Dr. Grigoriy Vazov I was appointed a member of the scientific jury to ensure a procedure for defense of a dissertation on "Increasing the financial and economic competitiveness of logistics enterprises with the use of analytical models "for obtaining the scientific degree" Doctor of Science "in the field of higher education 3. Social, economic and legal sciences, professional field 3.8. Economics, doctoral program "Finance, Insurance and Insurance".

The author of the dissertation is Dr. Maria Borowska, a lecturer in basic employment at the State Professional University Prof. Stanislaw Tarnowski in Tarnobrzeg (Poland) at the Faculty of Technical and Economic Sciences. The materials submitted by the Center for Research and Doctoral Training at VUZF include all the necessary documents for the procedure, so that on all sides of the evaluation made by the scientific jury, to indicate the specific merits of the doctoral student and to make an objective conclusion.

2. Brief biographical data about the candidate.

Maria Borowska was born on September 28, 1952 in Stalewa Wola (Poland). Dr. Maria Borowska is a lecturer on a basic employment contract in Poland, at the State Vocational University Prof. Stanislaw Tarnowski in Tarnobrzeg at the Faculty of Technical and Economic Sciences.

1976 - received a master's degree in mathematics from the Marie Curie-Skladowska University in Lublin (Poland).

From 1976 to 1995 he worked as a lecturer in mathematics at various higher and secondary educational institutions in Poland.

1995 - defended her doctoral dissertation in economics at the Faculty of Informatics and Management of the O. Langa University of Economics in Wroclaw (Poland). Dissertation topic: "Analysis of the functioning of the non-deterministic inventory management system".

Since 1995 he has been working as a lecturer in economics at various universities in Poland.

From 2015 until today - Lecturer in Basic Employment Contract at the State Vocational University Prof. Stanislaw Tarnowski in Tarnobrzeg (Poland)

1996-2002 - had an active cooperation with the Regional Office for Systemic Reform in Education and Matura in Krakow, was the head of the matura program.

1996-2002 - cooperation with the regional examination commission in Krakow as head of the program for a new matura in the former province of Tarnobrzeg regarding the preparation of the systemic reform in education and the matura in a new formula.

Since 1995, Dr. Maria Borovska has been the holder of disciplines that focus on the problems of logistics, management, finance, statistics and higher mathematics. She combines her teaching work with research in the field of economic efficiency of logistics, which has led to the realization of the present dissertation, the subject of this review.

Maria Borowska has repeatedly received various awards in the course of her professional work (from the school principal, supervisor of education, Minister of National Education of the 1st degree, medal of the National Education Commission, award of the Rector of the Catholic University of Lublin and a badge for current work at the Catholic University of Lublin).

3. Topicality of the topic and expediency of the set goals and objectives

The relevance of the chosen topic of the dissertation research is indisputable. In modern conditions, logistics has reached such a high level of development that requires analysis of a huge number of opportunities for making optimal decisions in the management of the enterprise. Decision-making in conditions of a high degree of complexity and diversity of logistics capabilities must be based on analytical models and scientifically sound mathematical methods for determining

their financial and economic efficiency. Solving this type of problem is possible only with a combination of economic and mathematical methods.

Dr. Maria Borowska has proved that this topic is very relevant for Poland in connection with the need to increase the financial and economic competitiveness of logistics companies with the use of analytical models. At the same time, in the context of globalization and increased competition, this topic is relevant to all countries. These aspects of logistics are poorly studied and little tried sled in the existing scientific literature, and research on the economic aspects of the use of analytical models in logistics is practically absent. To conduct research, the author sets a specific goal: "to present a new - innovative method of forecasting, supporting the process of service management in the direction of increasing the financial and economic competitiveness of logistics companies based on the laws of operation of probabilistic logistics system , ie, analytical models of these processes in the form of certain systems of equations ", as well as related goals, which in my firm belief, the author managed to achieve in the presented dissertation.

4. Knowledge of the problem

The author has undoubtedly studied the research problem well. His numerous publications confirm this. The total number of scientific publications is 21, including 3 individual monographs, 3 co-authored monographs, 15 scientific articles. All publications have been published in peer-reviewed and peer-reviewed scientific journals, including the individual monograph published by the Bulgarian Academy of Sciences. All publications of the author are directly related to the studied problem.

The dissertation is presented on 288 pages, there are 62 used models (formulas), 5 tables, 28 drawings. The author uses 165 sources.

The author's serious professional experience in research and teaching at the Faculty of Technical and Economic Sciences at the State Vocational University Prof. Stanislaw Tarnowski in Tarnobrzeg (Poland) is impressive and confirms that the author is well acquainted with the research problem.

5. Research methods used

The dissertation uses appropriate methods for this type of research - a systematic approach, supplemented by a functional and structural approach, as well as expert mathematical methods. Empirical methods are used: scientific observations and research methods and assessments (opinions), theoretical methods: analysis and summary of literature and normative documents, various types of sources, including literature related to research tasks and existing assumptions and draft concepts, as well as summaries , comparisons, analytical and statistical data. They allow to make an in-depth theoretical analysis, as well as to make practical and practical conclusions of a contributing nature.

The author divided all research methods into two groups:

1. Refers to the forecasting of specific processes on the basis of the implementation (time series) of these processes, ie on the basis of a set of observations of these processes, arranged in time,

2. Preparation of forecasts based on the laws of operation of the studied objects, ie with the help of the relevant mathematical systems of equations, ie. quantitative methods.

This work relates to the second of the study areas mentioned above, although it also uses forecasts obtained from the relevant time series.

6. Characteristics and evaluation of the dissertation

The dissertation consists of the following structural parts: introduction, three chapters, conclusion, appendix, keywords, list of figures, list of tables, list of used models (formulas), bibliography. The dissertation is accompanied by an abstract, which briefly presents the author's conclusions and research results. The dissertation is written in Russian and the abstract is in Bulgarian.

The following emphasis is placed in the relevant chapters.

The first chapter is devoted to the subject of the research and introduces the necessary concepts together with their mathematical notation and provides detailed information about the problem in the research and the structure of the dissertation.

The author describes logistics, its genesis, subject and modern definitions, logistics services, their features and types. Theoretical aspects of logistics systems and quantitative (mathematical) models in logistics systems are also considered.

The second chapter is devoted to logistics, its origin and history, as well as the subject of its interests and describes logistics services. It contains different conditions and characteristics, as well as types of logistics services. The chapter consists of subsections, which are devoted to the analysis of the functioning of the logistics system of the enterprise, respectively, in the aggregate version, as well as in the structural version. The logistics system is also considered, in which the filling level of warehouse M is controlled by the product delivery process (system. In addition, its operation is analyzed in three variants: intermediate state, lower barrier and upper barrier of the process describing the level of filling of subsystem M. The logistic system supporting service center is considered, in which the level of filling of the warehouse is controlled by the structural process of delivery of the production (system.

Chapter three makes a forecast of the functioning of the logistics activities of the enterprise, which is based on: probabilistic description of the logistics with system, quantitative characteristics of the weak point and other values describing the activities of the logistics system, forecasting the processes describing the functioning of the logistics system, probabilistic description of the functioning of the logistics system, forecasting characteristics describing the activities of the logistics system.

The method of calculating the listed characteristics and indicators is illustrated with an example of a two-way process of product delivery. Formulas are obtained expressing the dependence of these quantities on the parameters of the system. In addition, an analysis was carried out, taking into account the suitability of these formulas for solving the problems of effective management of this system and assessing the correctness of the system design.

To illustrate the differences in the methodological approaches to the problem of forecasting, an example is given for determining the forecast of a process describing the volumes of coal mining in an open pit mine, where elements of harmonic analysis are used.

7. Evaluation of the abstract and reference for the contributions in the dissertation work

The abstract is detailed and accurately reflects the research in the dissertation itself. The abstract contains the following parts: I. General characteristics of the dissertation: relevance and significance of the topic of the work, object and subject of the work, main problems of the work, the author's thesis, purpose and tasks, methods and methodology of work, limitations on work; II. Structure and scope of work; III. Brief description of the sections of the work, which describes and briefly repeats the content of the dissertation; IV. Conclusions and advantages arising from the work, which briefly describes the author's contribution to the development of scientific knowledge and conclusions from dissertation research; V. Publications related to the dissertation. The abstract is prepared in Bulgarian; the dissertation is in Russian.

The author described in great detail and reasonably the conclusions and proposals of the dissertation research, as well as the theoretical and practical significance of the results. All conclusions are scientifically substantiated and logically proven in the dissertation. Conclusions have scientific and practical value. The abstract fully reflects the essence of the dissertation and meets the requirements for it.

8. Evaluation of the publications on the dissertation

The candidate has presented the publications on the topic of the dissertation. They are both personal and co-written. All publications of the candidate made in refereed and peer-reviewed editions. The total number of scientific publications is 21, including 3 individual monographs, 3 co-authored monographs, 15 scientific articles, including the individual monograph published by the Bulgarian Academy of Sciences. All the author's publications are directly related to the research problem.

9. Assessment of compliance with the minimum national requirements

It is evident from the reference for fulfillment of the minimum national requirements for awarding the scientific degree "Doctor of Economic Sciences", which the applicant has applied, that there is an over fulfillment of these requirements.

10. Personal participation of the candidate for "Doctor of Science"

There is all the evidence that this dissertation is the work of the candidate himself, the result of his research and work on a topic that is largely within the scope of his teaching and on the other hand - his research and analysis.

11. Weaknesses and issues

I think that the candidate could refer more massively to Bulgarian authors who are present, but are relatively small in number compared to the number of foreign authors.

I think the author could describe the limitations of this research in more detail.

I believe that using several specific practical examples of analytical models in different sectors of the economy, proposed by the author, could significantly embellish this scientific work.

At the same time, it should be noted that due to the lack of research in this field of knowledge, in fact, any direction of research in a field chosen by the author will be very relevant.

14. Recommendations for future use of dissertation contributions and results

I recommend directing future research to research on the development of analytical models to increase the financial and economic efficiency of logistics support for transport in connection with the already studied by the author area of logistics support for enterprises. This scientific direction is very relevant, because it is in interaction with the transport system that maximum efficiency of logistics activities can be achieved.

CONCLUSION

The review of the dissertation on the topic: "Increasing the financial and economic competitiveness of logistics companies through the use of analytical models", developed by Dr. Maria Borovska gives grounds to conclude that this study meets the requirements of the Law on development of the academic staff in the Republic of Bulgaria. The topic provides an opportunity to reveal both fundamental issues of economic and management theory, as well as to outline models for practical benefits of the application of the theory in practice.

The dissertation has scientific, scientific-applied and applied results, which represent an original contribution to science and meet the requirements of the Law for development of the academic staff in the Republic of Bulgaria and the Regulations for application of this Law. The presented

materials and dissertation results fully comply with the relevant requirements of the Regulations for admission and training of doctoral students at the Higher School of Insurance and Finance.

The dissertation work shows that candidate Dr. Maria Borovska has in-depth necessary knowledge and professional skills in the professional field 3.8. Economics, demonstrating qualities and skills for independent research.

Given the above, I confidently give my positive assessment of the research presented by the above peer-reviewed dissertation, abstract, results and contributions, and I invite the esteemed scientific jury to award the degree of "Doctor of Science" to Dr. Maria Borovska in the field of higher education 3. Social, economic and legal sciences; professional field 3.8. Economics; doctoral program "Finance, Insurance and Social Security".

05.2021г. Reviewer:

(Prof., Doctor of Economics Britchenko Igor Gennadievich)