

STATEMENT

over dissertation for gaining educational and scientific degree “**doctor**”

Dissertation author: **Georgi Lazarov Shahpasov**

Dissertation topic: „**Intelligent Techniques for Analyzing Processes financing of small and medium business**“

Educational area: **4. “Natural sciences, mathematics and informatics”**

Professional division: **4.6. „Informatics and Computer Sciences”**

Scientific discipline: „**Informatics**“

Supervisor: **Prof. DSc Lyubka Doukovska**

Jury member: Order № 263/31.10.2019 of the director of IICT - **Prof. Dr. Dimitar Karastoyanov**

Dissertation structure

The dissertation has 157 pages and contains Introduction, 3 Chapters, Conclusion, References and author’s Publications. The reference list contains 110 sources, and the publication list contains 9 publications. 6 contributions are formulated with scientifically-applied and application matter. A declaration for original results is enclosed.

The autoreferate contains 40 pages and resemble the desired goals, accomplished results and the basics for the scientifically-applied contributions.

Overall dissertation characteristics

The theme of the dissertation is in the area of the application of innovative intelligent techniques to analyze the financing processes of small and medium-sized businesses through the use of efficient algorithms for processing large data flows. The goal and tasks are marked as subject for actual scientifically-applied researches, which without a doubt, is a prove for the actual matter of the dissertation subject, as well as the usefulness of the scientifically-applied results.

The Introduction to the dissertation justifies the use of intercritical analysis by indexed matrices and fuzzy sets. In Chapter 1 describes a summary of intelligent methods for analyzing complex processes. Chapter 2 contains research over analysis of the financing processes of small and medium-sized enterprises. In Chapter 3 are proposed experimental results from simulation analyzes. The Conclusion describes the mathematical tools and approaches used.

The list with publications has 9 publication. All of them correctly describe the accomplished dissertation results. The publications are in specific published works, and in national (2) and international (7) conferences. Their structure is as follows:

Publications in Proceedings of the International Symposium on Business Modeling and Software Design – BMSD 2012, 2013, 2014 and 2015,

Publications in Proceedings of the International Conference on Intuitionistic Fuzzy Sets – IFS 2013, 2014, 2014 и 2016,

Publication in Proceeding of the International Conference on Advanced Control and Optimisation: Step Ahead – ACOSA 2014.

Scientifically-applied contributions of the dissertation

In the dissertation and the autoreferat are formulated 6 contributions with scientifically-applied and application character. Some of them are sub defined in addition to the results. Mainly they are described as follows:

- Systematization of the existing toolkit of the Financing Procedures for Small and Medium-Sized Business (FPSMB) through the JEREMIE initiative,
- The results of the analysis of the FPSMB have been obtained through intelligent techniques for analyzing mechanisms of banking institutions,
- The results of the analysis of the FPSMB have been obtained through intelligent techniques for analyzing the effectiveness of banking structures,
- The results of the analysis of the FPSMB have been obtained through intelligent techniques for the analysis of hybrid credit products,
- The results of the analysis of the FPSMB have been obtained through intelligent techniques for analysis of economic operators in the EU-27
- The results of the analysis of the FPSMB have been obtained through intelligent techniques for analyzing of EU funding mechanisms.

Opinion, recommendations and notes

The dissertation is widely developed and presents a complete scientifically-research work. The author has presented systematical research of the problem and has proposed original scientifically-applied results and useful practical solutions. The final results fully resemble the desired goal: "Using modern paradigms in the field of intelligent systems to analyze the processes of financing small and medium-sized businesses". The tasks assigned correspond to the declared contributions.

I have the following remark of the presented dissertation in redaction and technical matter:

- The reference list is not well formatted and doesn't follow the requirements of the literature content,
- There is a difference in the title of the PhD thesis between the Bulgarian and English versions,
- The description of the contributions is of a uniform and repetitive nature through the use of a stamp, which does not emphasize the contributions themselves.

My recommendation for the student is to keep his research work ongoing and to publish his results especially through self-published papers in refereed international journals.

CONCLUSION

I highly evaluate the work over the dissertation and the accomplished results. The dissertation follows the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria, and the Guide of its application as well as the specific Requirements for gaining scientific degrees and academic title in IICT-BAS. Based on that I recommend to the honorable scientific jury to award Georgi Lazarov Shahpasov a scientific title "**doctor**" in Educational area: 4. "Natural sciences, mathematics and informatics", Professional division: 4.6. „Informatics and Computer Sciences“, Scientific discipline: „Informatics“

Sofia,
02.12.2019

Jury member: .

**NOT FOR
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/Prof. Dr. Dimitar Karastoyanov/