REVIEW

by Assoc. Prof. Dr. Boryana Bogdanova, Sofia University "St. Kliment Ohridski"

of a dissertation for awarding the educational and scientific degree **" doctor "**

by: field of higher education 3. Social, economic and legal sciences

professional direction 3.8. Economics

PhD program Finance and Accounting

Author : Georgi Petrov Kaloferov

Topic : Success Factors for Startup enterprises

Scientific supervisor: Prof. Dr. Stanimir Ivanov Kabaivanov

1. General presentation of the procedure and the doctoral student

By order No. RD-21-669 dated 24.03.2023 of the Rector of the Plovdiv University "Paisiy Hilendarski" (PU), I have been appointed as a member of the scientific jury to ensure a procedure for the defense of a dissertation work on the topic "Success Factors for Startup enterprises" for the acquisition of the educational and scientific degree "doctor" in the field of higher education " Social, economic and legal sciences", professional direction 3.8. Economics, PhD program "Finance and Accounting". The author of the dissertation work is Assistant Professor Georgi Petrov Kaloferov - a full-time PhD student at the Department of Finance and Accounting with the supervisor Prof. Dr. Stanimir Kabaivanov from PU.

The set of documents presented by Assistant Professor Kaloferov is in accordance with Article 36 (1) of the Rules for the Development of the Academic Staff of the PU, includes the following documents:

- a request to the Rector of the PU to disclose the procedure for the defense of a dissertation work;

– curriculum vitae in European format;

– minutes from the department council related to reporting the readiness to open the procedure and preliminary discussion of the dissertation work;

- opinion from the scientific supervisor about the readiness to defend the dissertation work of Assistant Professor Kaloferov;

– dissertation work;

– abstract;

– a list of scientific publications on the subject of the dissertation;

– copies of scientific publications;

- declaration of originality and authenticity of the attached documents;

– paper of compliance with the national minimum requirements for acquiring a doctoral degree;

- an official note certifying the participation of Assistant Professor Kaloferov in research projects.

The PhD student has attached 3 publications.

2. Brief biographical data for the doctoral student

The candidate holds the position of Assistant Professor at PU from 2022 to the moment, and from 2014 to 2022 he is a part-time Assistant at the same university. In parallel, he has practical experience in the field of consulting IT services. He obtained his bachelor's degree at PU and has two master's degrees, one of which was obtained abroad.

3. Relevance of the topic

The dissertation is devoted to a topic that is becoming even more important both from a scientific point of view and from the perspective of investment finance. In the proposed introduction of the dissertation, the candidate offers a relevant motivation for the choice of research topic; he defines a goal and sub-goals that could be further specified in the context of the contributions documented in the publications attached to the dissertation work.

4. Knowing the problem

The first chapter of the dissertation offers a comprehensive exhibition in a volume of 61 pages, within which the working concepts are introduced, the classic methods for evaluating startup companies are presented, and a literature review and analysis of publications in the subject area researched by the candidate is proposed. I believe that there is sufficient in-depth knowledge of the researched issues.

5. Research methodology

The research methodology is based on methods from the ML field for solving classification tasks. Chapter two of the dissertation, which is 40 pages long, presents in detail the analytical framework and its components, which follow the key phases in the classic CRISP-DM methodology. The response variable is well-defined, as well as the creation of synthetic features based on the

raw dataset. A variety of techniques are used to build alternative predictive models, whose accuracy is then compared against validated metrics.

6. Characterization and evaluation of the dissertation work and contributions

The dissertation has a classic structure of introduction, three chapters, list of references and appendices. The letter sections of this review present the main characteristics and assessment of the introduction, chapter one and chapter two. In chapter three, which has a volume of 41 pages, the empirical results obtained from the application of the methodology described in chapter two are presented in detail. It also includes the conclusion, which should be outlined in a separate section.

The results of the applied analytical framework are clearly and concretely presented, following a style that corresponds to the standard presentation of results from the application of machine learning algorithms in classification tasks. The candidate outlines a detailed interpretation of the obtained results and demonstrates how they can be applied to a specific case, namely the fintech company unicorn Payhawk.

7. Evaluation of the contributions

The dissertation examines a current problem of importance for investors and entrepreneurs through the lens of modern trends in the field of machine learning and data mining. I consider this to be an essential contribution of the doctoral thesis proposed for a review, which makes it difendable. This contribution, which within the list of contributions is broken down into several smaller and more specific ones, is also documented within two SCOPUS publications, one of which is co-authored. This is, in essence, a sufficient verification of the significance of the contributing elements that have been derived from the conducted research.

8. Evaluation of publications on the dissertation work

There are three articles, two of which are published in a SCOPUS-indexed journal: one of them is authored only by the candidate and the other one is co-authored with the supervisor. The third article is authored only by the candidate and published in a refereed journal. Thus, the score obtained exceeds the minimum required one as by national standards.

9. Personal participation of the doctoral student

From the attached publications, which are the backbone of the dissertation work, it is clear that the essential part of the scientific research was carried out independently by the doctoral student under the guidance of his supervisor. Without a doubt, the attached declaration of authorship proves this formally.

10. Abstract

The abstract reflects the essential moments of the dissertation work. A better balance of the content of Chapter 1, which is reflected in the abstract, could be sought.

11. Critical remarks and recommendations

To any dissertation could be addressed critical remarks, and this one is not an exception. The latter will be shared with the candidate on a personal basis, but it is important to note that these critical remarks do not diminish the contributions of the research conducted.

12. Personal impressions

I do not know the candidate and have no personal impressions of him.

13. Recommendations for future use of dissertation contributions and results

My main recommendation is the classical one, i.e. to publish one or more additional articles, within which to present unpublished results of the conducted empirical research.

CONCLUSION

The dissertation contains scientific, scientific-applied and applied results, which represent an original contribution to science and meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for the Implementation of ZRASRB and the relevant Regulations of PU "Paisiy Hilendarski".

Due to the above, I give my positive assessment of the conducted research, presented by the above-reviewed dissertation work, abstract, achieved results and contributions, and I propose to the honorable scientific jury to award the educational and scientific degree "doctor" to Georgi Petrov Kaloferov, area of higher education 3. Social, economic and legal sciences, professional direction 3.8. Economics, PhD program Finance and Accounting.

17.05.2023   ....

Assoc. Dr. Boryana Bogdanova