ATTITUTE

on the procedure for defense of a dissertation on the topic:

"RESEARCH AND MODELING OF BUSINESS PROCESSES SUPPORTING DECISION-MAKING RELATED TO DIGITAL TRANSFORMATION"

to acquire

educational and scientific degree "doctor"

from

candidate: **Naiden Kirilov Naidenov**

Field of higher education: **4. Natural sciences, mathematics and informatics**

Professional field: 4.6. Informatics and computer science

Doctoral program: **"Informatics"**

The opinion was prepared by: ***Assoc. Prof. Dr. Desislava Antonova Ivanova***, Technical University of Sofia, Faculty of Applied Mathematics and Informatics (FAMI), Department of Informatics, in my capacity as a member of the scientific jury, according to Order № №61/28.03.2025.

1. General characteristics of the dissertation and the submitted materials

The dissertation is 126 pages long and is structured in an introduction, 3 chapters, conclusion - a summary of the results obtained, contributions, a list of publications on the dissertation, a list of noted citations, a declaration of originality of the results and a bibliography. 187 literary sources are cited. The thematic area of the dissertation is related to digital transformation. An important problem for society, which encompasses several components including technological, organizational and cultural.

Chapter 1 provides an overview and analysis of the main processes and tasks contributing to the achievement of digital transformation. The main business processes are analysed, as well as the stages for successful digital transformation. Particular attention is paid to the human factor in this process, including customer relationship management systems. Based on the analysis, conclusions are drawn, based on which the goal of this dissertation is formulated. *Chapter 2* describes the proposed models that support decision-making in various processes related to digital transformation. An integrated approach is presented for assessing the progress of digital transformation by using multiple objective and subjective indicators. Based on the determined

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indicators, a mathematical model is formulated for assessing the current state of digital transformation. _Chapter 3_ presents the numerical experiments conducted on the proposed models. The results of testing the proposed integrated approach for assessing the progress of digital transformation using multiple objective and subjective indicators are described.

The presented dissertation is in a current and rapidly developing field related to digital transformation.

2. Scientific and scientific-applied achievements of the candidate, contained in the presented dissertation and the publications to it, included in the procedure

Four scientific and scientific-applied contributions are formulated and proposed in the dissertation. I accept the contributions formulated and proposed in the dissertation.

3. Approbation of the results

Approbation of the developed models was done by publishing them at prestigious international forums. The results obtained in the dissertation work of Naiden Kirilov Naidenov are presented in three scientific publications related to the dissertation work, and one additional one, which is in print. All articles are co-authored, and all three articles are published in prestigious Springer publications such as 1) Communications in Computer and Information Science; 2) Lecture Notes in Business Information Processing, Springer; 3) Lecture Notes in Computer Science, and the three articles are in publications with Q4, Q3 and Q2 and SJR rank.

The publications presented by Naiden Naidenov meet the requirements for obtaining the educational and scientific degree "Doctor" in PF 4.6 Informatics and Computer Science.

4. Qualities of the abstract

The abstract meets the requirements and contains the basic information and accurately and clearly reflects the contributions to the dissertation.

5. Critical remarks and recommendations

I have no critical remarks.

6. Conclusion

After getting acquainted with the dissertation presented in the procedure and the accompanying scientific papers and based on the analysis of their significance and the scientific and applied contributions contained in them, **I confirm** that the presented dissertation and scientific publications to it, as well as the quality and originality of the results and achievements presented

in them, meet the requirements of the Law on the Protection of Human Rights and Fundamental Freedoms, the Regulations for its application and the respective Regulations of BAS for obtaining by the candidate the educational and scientific degree "Doctor" in the scientific field 4. Natural Sciences, Mathematics and Informatics and Professional Field 4.6 Informatics and Computer Science. In particular, the candidate satisfies the minimum national requirements in the professional field and no plagiarism has been established in the scientific papers submitted at the competition.

Based on the above, **I recommend** the scientific jury to award *Naiden Kirilov Naidenov* educational and scientific degree "Doctor" in scientific field 4. Natural Sciences, Mathematics and Informatics, professional field 4.6 Informatics and Computer Science.

07.05.2025

Sofia

Signatu

НА ОСНОВАНИЕ

ЗЗЛД