

OPINION OF A DOCTORAL DISSERTATION ON THE TOPIC:

**Analytics in IT projects ( Analytics in IT Projects )**

acquisition of educational and scientific degree "doctor" c

professional direction 4.6. Informatics and computer

sciences, scientific specialty Informatics

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## **1. Significance of the researched problem in scientific and scientific-applied terms.**

Penko Ivanov's dissertation entitled " Analytics in IT Projects ", explores the key role of analytics in IT project management and business analytics education. This research problem is of utmost importance in both scientific and applied science contexts, offering new approaches and frameworks for the integration of analytical methods in IT projects.

The scientific significance of the researched problem is related to the development of theoretical models and methodologies that support the integration of analytical techniques in the management of IT projects. Although diverse methodological approaches exist in the field of business analysis and project management, Ivanov's dissertation fills an important gap by proposing a comprehensive model that brings these disciplines together in the context of big data analysis. This model is based on a thorough systematic literature review and includes the development of a methodological framework that can be used to improve the efficiency and accuracy of IT projects through analytical approaches.

The scientific and applied significance of the researched problem is expressed in its direct impact on the practice of IT project management. The dissertation offers a methodological framework that covers the entire life cycle of IT projects – from initiation and planning, through data management and analytical modeling, to implementation and continuous improvement. This framework has been created in accordance with established industry standards such as those of the International Institute for Business Analysis (IIBA) and the Project Management Institute (PMI), which ensures its applicability and relevance in real-world project settings.

## **2. Justification of the objectives and tasks in the dissertation work**

In the modern era of digitization and intensive technological progress, the management of information technology (IT) projects is becoming increasingly complex and requires innovative approaches for successful implementation. The dissertation work of Penko Ivanov sets the ambitious task of proposing a methodological and educational framework that integrates analytical methods in the management of IT projects. The main objective and accompanying tasks of this work are clearly justified and address current challenges and needs in the field of IT projects and business analysis.

The main goal of the dissertation work is the development and validation of a comprehensive methodological and educational framework for the integration of analytical methods in IT project management. This goal stems from the increasing complexity of modern IT projects, which require more efficient and data-centric management approaches. In the context of globalization and the accelerated development of technologies such as artificial intelligence and big data, the need for such integrated approaches is more evident than ever.

The tasks that the dissertation sets are logically related to the main goal and include a systematic review of the literature, development of a methodological framework and its validation through practical examples. A systematic literature review is the first important task that aims to identify existing gaps and shortcomings in current methodologies and practices. This task is necessary to provide a solid basis for the development of new approaches that will be more effective and adapted to modern conditions.

## **3. Correspondence between the chosen methodology and research methodology and the set goal and tasks of the dissertation work.**

The chosen methodology and research methodology in Penko Ivanov's dissertation work are closely related and fully correspond to the set goal and tasks. The main goal of the dissertation – development and validation of a methodological and educational framework for the integration of analytical methods in IT project management – requires a complex and multidisciplinary approach. The methodology includes a systematic review of the literature, which allows the identification of existing gaps and shortcomings in current methods and approaches. This review serves as a basis for formulating new proposals and development stages, providing a solid theoretical framework for further research.

The research methodology includes both qualitative and quantitative approaches, which provides a comprehensive and detailed assessment of the proposed frameworks. The qualitative approach, through detailed case studies, allows in-depth analysis of specific examples and cases from practice, which is essential for the validation of the methodological framework. Quantitative analysis, including the use of statistical and analytical methods, provides an empirical assessment of the effectiveness of the proposed solutions. This combination of methods ensures that the research is not only theoretically sound, but also practically applicable, providing reliable and valid results that support the stated aim and objectives of the dissertation work.

#### **4. Scientific and scientific-applied contributions of the dissertation work**

Penko Ivanov's dissertation work provides significant scientific contributions that contribute to the enrichment of existing theoretical frameworks in the field of IT project management and business analysis. One of the main scientific contributions is the development of a new methodological framework for the integration of analytical methods in IT projects. This framework includes a comprehensive approach to data management, from collection and analysis to

visualization and interpretation of results, thereby providing a systematic and structured way to apply analytical techniques in project management. Additionally, the paper contributes to the literature through a detailed review and analysis of existing methodologies, identifying key gaps and challenges that are addressed through the proposed framework.

The scientific and applied contributions of the dissertation are also significant and have a direct impact on the practice of IT project management. The developed methodological framework has been applied and validated through multiple case studies, demonstrating its practical applicability and effectiveness. These case studies illustrate real-world examples of successful integration of analytical methods, resulting in improved resource management, process optimization and increased strategic alignment between technical solutions and business objectives. In addition, the educational framework proposed in the dissertation provides a structured approach to prepare future specialists in the field of business analysis and IT management, combining theoretical knowledge with practical skills, which is of critical importance for their successful implementation in the industry.

**5. Evaluation of the publications of the dissertation work: number, nature of the editions in which they were published.**

Dissertation publications exceed the required number and are essentially research papers

**6. Opinions, recommendations and notes.**

Penko Ivanov's dissertation demonstrates a high degree of scientific thoroughness and practical relevance, making it a valuable contribution to the field

of IT management and business analysis. The methodological approach is well-grounded and comprehensive, including a systematic literature review, development of new frameworks and their practical validation through case studies. This combination of theoretical and applied aspects is particularly useful as it provides both scientific innovations and practical tools that can be directly used in real IT projects. The educational framework is also well structured, offering the necessary knowledge and skills for future professionals, which further emphasizes the importance of work.

Despite the impressive results and contributions of the dissertation, some recommendations could further enhance its value. For example, it would be useful to expand the range of case studies to include more international projects and different industry sectors to demonstrate the universality and adaptability of the proposed frameworks. Additionally, future research could focus on the long-term effects of implementing these methodologies and their impacts on organizational culture and strategic planning. It is also recommended to develop a deeper analysis of the ethical aspects of the use of analytical methods in IT projects, especially in the context of personal data and security. These additional studies and extensions will contribute to further strengthening the scientific and practical relevance of the dissertation work.

### **In conclusion :**

Penko Ivanov's dissertation shows that the candidate has in-depth theoretical knowledge in the relevant specialty and demonstrates an ability for independent scientific research. The work is structured and executed in a manner that reflects a high level of scientific competence and professionalism. The chosen methodology is justified and corresponds to the set goals and tasks, and the theoretical summaries made in the dissertation are valid and significant.

The contributions described in the dissertation work are real and significant both in a scientific and in a scientific-applied aspect. The proposed solutions have clear scientific and applied aspects that can be used in the practice of IT project management and business analysis. The degree of personal involvement of the dissertation student in the realization of these contributions is beyond doubt and clearly shows his contribution to the development of the researched field. The abstract correctly describes the main points and contributions of the dissertation work, which further emphasizes the importance of the work done.

The scientific results achieved by Penko Ivanov in his dissertation give me reason to state that I give a positive assessment and propose that he acquire the educational and scientific degree "Doctor".

Date 08/08/2024

Signature: .....

/ Assoc. Prof. Ivan Trenchev/