

R E V I E W

**On a dissertation work for obtaining the educational and scientific degree
"Doctor" under the doctoral program 05.02.21 "Organization and
production management (industry)"
in professional field 5.13 "General engineering"**

**Dissertation Topic: "Complexity Reduction and GDPR Implementation:
Conceptualizing a User-Centered Online Privacy Control System and Assessing
Its Effects on Organizational Trustworthiness"**

Author of the dissertation: Kadir Ider

**Reviewer: Prof. Dr. Siyka Dimitrova Demirova, Department of Industrial
Management, Faculty of Mechanical Engineering, Technical University - Varna**

1. Relevance of the problem developed in the dissertation work in scientific-applied and scientific terms. Degree and scale of the actuality of the problem and the specific tasks developed in the dissertation

The topic "Complexity Reduction and GDPR Implementation: Conceptualizing a User-Centered Online Privacy Control System and Assessing Its Effects on Organizational Trustworthiness" is extremely relevant in both scientific and applied ways of consideration and research. I accept that such a development is modern and useful for science and especially for practice in the field of privacy control systems. A user-oriented data privacy control system has been developed that would be useful to organizations in complying with the requirements related to the General Data Protection Regulation (GDPR). A thorough review of the literature in the field, primary and secondary data collection and analysis, and design thinking is demonstrated to create a practical, scalable and cross-industry privacy control system. The research methodology included an international web-based survey using the Qualtrics and Google Forms platforms, aiming to determine consumer awareness, trust in organizations and evaluation of data privacy controls. This means that both the theoretical characteristics of this process and the approach to their research undergo constant changes in the direction of development and improvement of this activity. In this sense, the dissertation work contains significant reserves in increasing its theoretical and practical effectiveness in terms of its scale, and also as an approach to solving specific tasks of this nature. From this point of view, the development and implementation of different approaches to the assessment of data privacy elements is not only relevant, but also useful for science and practice organizational decision.

2. Degree of knowledge of the state of the problem and creative interpretation of literary material

The dissertation work is developed in 125 pages, including 32 figures, 32 tables and appendices, conclusions and a list of used 67 literary sources. An in-depth research and literature review of the problems related to the modern challenges and requirements

both to the organizational nature of high-end application security systems and to the development of the general regulation of personal data protection as a whole has been carried out. What has been achieved so far in this area has been analyzed and the goals and objectives of the dissertation have been formulated on the basis of analytical conclusions. That is why I believe that the goal formulated in this way fully corresponds to the content of the development and fully covers the essence of the work carried out on the analytical research and application of the principles of development of the problem of personal data security.

Good consistency has been applied both in terms of the structure and in terms of the scope of the information material in the field of personal data protection. The dissertation is structured in four chapters:

Chapter One is devoted to an analytical study and review of global and regional solutions to the problem. It highlights the importance of privacy and the challenges organizations face in complying with the GDPR.

Chapter Two presents the theoretical formulation of the decision and the tasks to achieve the goal. The importance of considering the three perspectives in assessing the trustworthiness of an organization is highlighted and the impact of controls over personal data, processes and systems on trustworthiness is revealed.

Chapter Three examines the conditions and environment for application of the decision. A methodology for collecting and analyzing personal data is presented.

Chapter Four contains the experimental verification.

In this form, order and sequence of exposition and essence, the dissertation work completely fulfills the previously set condition to meet the requirements for obtaining the educational and scientific degree "Doctor". My assessment is that the doctoral student knows the state of the problem well and analytically and creatively evaluates and interprets the overview-informational material. Uses appropriate statements in all stages of work - from analysis to conclusions and formulations. What's more - from this large volume of information, he has very successfully specified the problem to the improvement of only the component - security of personal data.

3. Correspondence of the chosen research methodology with the set goal and tasks of the dissertation work

The methodology of Conceptualizing a user-oriented online privacy control system and evaluating its effects on organizational reliability as a management component is successfully chosen and suitable for this kind of scientific research. It meets the requirements of such development and is related to the use of analytical information and precise formulations. With it, an answer is given to the set goal, both with the choice of the tasks to be solved, and with their complexity, scope and sequence of development. The features of modern security systems have been very well researched and analyzed, including the stages for practical and theoretical development of the approach to personal data protection.

In this way, the main tasks, containing the essence of the development, were also successfully formulated. The theoretical-methodological aspects of the approach to solving the problem are well explained, including the need to search for new forms and ways of incorporating new solutions. The choice of the approach and the requirements for its application are theoretically justified. The requirements and possibilities for

testing and applying the approach in practice have also been successfully formulated. The sequence of the implementation of the approach and the requirements regarding the conditions for its application with the expected effects are correctly formulated. The limits of the scope and the possibilities for evaluating its practical applicability are particularly well defined. An attempt has also been made to assess the theoretical and practical applicability of the developed problem by testing the approach and proposing a concept for its practical application and use in practice. Assessments and evidence both for individual chapters and as an overall presentation are satisfactory and acceptable.

4. Assessment of the nature and credibility of the material

The material on which the dissertation is built is credible, based on real problems from practice as an opportunity to bring the existing approaches to control with the intelligent forms and methods of preserving data privacy. These are current problems that require continuous monitoring, analysis and solution, and which in the future with the development and application of new information technologies and cyber-systems will gain more and more importance.

5. Contributions of the dissertation work

Contributory moments boil down to: *proving by new means substantial new sides in existing scientific problems and theories.*

Their nature is reduced to scientific-applied and applied as follows:

5.1. Scientific - applied contributions

1. A new unifying framework for GDPR compliance has been introduced. It helps simplify the implementation process for organizations and improves user control over personal data through a privacy control system.

2. A methodology has been developed for surveying users' awareness of privacy, trust in organizations, assessment of privacy control elements, and feedback on survey quality. Internal and external data validation methods are used.

3. Based on the proposed methodology, data was collected through a large-scale web-based survey of citizens and organizations. They contain the GDPR implementation practices for assessing users' privacy awareness, trust in organizations, assessment of privacy controls and feedback on survey quality.

4. A system is proposed, enabling citizens to control their personal data, counteracting the tendency to transfer control to data processing organizations

5. Surveys were made for the needs of the research study using two web applications, Qualtrics and Google Forms.

6. A conclusion is made about the influence of personal data control, processes and systems on reliability. The study highlights the importance of societal impact, ambiguous legal regulations and technology in assessing organizational trustworthiness, revealing the impact of personal data controls, processes and systems on trustworthiness.

5.2. Applied Contributions

1. For research purposes, web-tools have been created to collect and analyze data from a variety of sources, providing a comprehensive and nuanced understanding of GDPR compliance issues.

2. Online conditions have been created and information on over a thousand fines has been collected, which is analyzed and contextualized in order to identify trends in GDPR compliance.

A web-scripser was created to extract data from websites, which allows the collection of relevant information necessary for the research in order to identify trends in GDPR compliance.

Nature of Contributions

The contributions are of a scientific and applied nature. They are of such a nature that apart from their theoretical usefulness they can also be used in practice. Their applicability will undoubtedly be useful to students and professionals dealing with these issues.

Significance of Contributions

Contributions would contribute to the expansion of knowledge in the field of application of new control forms by enriching scientific research in this field. They will also contribute to the clarification and formation of requirements for creating conditions for increasing methodological knowledge on the application of novelties in the protection of confidential information, and hence increasing the efficiency of using the approach and method for the controlled flow of this process. This is undoubtedly the great theoretical-practical usefulness of the dissertation work, and the experimental results prove indisputably the effectiveness of its future application in practice.

6. Assessment of the degree of personal participation of the dissertation student in the contributions

My assessment is that the dissertation work and contributions are the personal work of the PhD student, supported by his supervisors. The model, including the methodological toolkit has been experimented with and the results are positive. I believe that they are sufficient for this kind of research and will enrich the knowledge of the application of this methodology in the management of processes related to the security of personal data.

7. Evaluation of the publications in the dissertation work

From the presented reference for the minimum national requirements, it is clear that the doctoral student is the author and co-author of six publications reflecting the main stages and results of his research:

- *Scientific publications in publications, referenced and indexed in world-famous databases with scientific information* - 1pc., independent - 40p.
- *Scientific publications in non-refereed journals with scientific review or in edited collective works* : 5pcs. (two co-authored and three independent) - 80p.

The total number of points significantly exceeds the requirements for acquiring the educational and scientific degree Ph.D.

The PhD student has not submitted any citation data.

8. Use of the results of the dissertation work in scientific and social practice

The results of the experiment are positive and will be used in practice and the learning process. There are no official documents attached to the use of the results in practice, but it is known that they will be made available for use by security companies that are interested in solving this problem. Scientific conclusions and statements will be used as a basis for continuing scientific work on the application of the model in security systems.

9. Future use of scientific and scientific-applied contributions

1. The doctoral student should think about applying the approach in the practice of companies that need a comprehensive solution to the problem under consideration. For the purpose, in the future, to refine the methodology for the practical applicability of the proposals for use in national security and public practice.

2. In the following years, the work can continue in the same direction by doing additional research as far as possible to further develop and offer software products to improve the methodology for faster and practical use.

10. Abstract

The abstract correctly reflects all the main parts of the dissertation by outlining the most significant ideas and contributing moments. It was prepared in accordance with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for its application at TU-Varna for obtaining the educational and scientific degree "Doctor".

11. Critical Notes

After the hard work of the PhD student to remove the notes from the preliminary reviews and the internal discussion before the department, I can say that I have no critical notes on the submitted paper.

12. Other matters

1. The doctoral student's literary awareness is very good.
2. I have not noticed the use of foreign approaches, definitions, borrowed material and others that would be referred and classified to the category of "plagiarism".
3. The recommendations made would be useful both for the PhD student and for the future practical use of the contributions of the development.

13. Conclusion

I accept the dissertation work as completed, giving it a high grade. With it, the doctoral student convincingly proves that he has good knowledge and skills to use modern research methods in scientific research and analysis. Kadir Ider has proven that he can independently solve complex scientific problems, such as national security and privacy issues.

In conclusion, I propose to the members of the scientific jury to award Kadir Ider the educational and scientific degree "Doctor" enrolled for doctoral program

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06/10/2023

Reviewer:
/Prof. Dr. Siyka Demirova/