

REVIEW

by **Prof. Dr. Ilin Alexandrov Savov**, PhD, DSc - Academy of the Ministry of Interior

Author of the dissertation: Teodora Kirilova Licheva

Topic of the dissertation: "BLOCKCHAIN SECURITY IN PUBLIC ADMINISTRATION", NBU, professional direction 9.1. National security, scientific specialty "Organization outside the sphere of material production (Strategies and security policies) for the acquisition of an educational and scientific degree "doctor"

1. General characteristics of the presented dissertation

The dissertation "Blockchain Security in Public Administration" with a volume of 210 pages, structured in an introduction, three chapters, general conclusions, conclusion, 305 footnotes are made. The list of used literature includes 86 sources, of which 10 are in Bulgarian, 1 in Russian, 1 in Chinese and 62 in English language.

My dissertation submitted for review is without a doubt relevant to the theory. The matter discussed is related to issues that are extremely important and topical, due to the increasingly intensive development of new technological possibilities and their inevitable use in state administration

The topic of the research is correctly and precisely formulated - there is a complete correspondence between the title and content of the dissertation work. Together with the mentioned research, it is distinguished by a balanced combination of theoretical knowledge and skills for practical analyses. The structure of the dissertation is logically built and fully meets the stated research goals and the set tasks. A major question in today's society of rapidly developing and changing information technology is to what extent digital information can be trusted, and scientific development gives a definite answer to the question.

The formal and substantive merits of the dissertation research can be summarized as follows:

- The dissertation offers modern and modern solutions for change in the administration, as part of the country's state management, using the stages of the management cycle in security;
- The methodologies for the implementation of the block system, development and implementation of the three-layer model for introducing the blockchain system in the state administration were examined and analyzed; The defined tasks are not

self-serving and abstract, but determine the structure of the research and the methods used;

- The main thesis of the dissertation research is clearly formulated - "With the introduction of blockchain technology, integrity, credibility and non-manipulation of data is guaranteed. Coordination and cooperation between state institutions and society will lead to an increase in economic and social activity to ensure civil security";

- The literature used is satisfactory in terms of volume and timeliness;

- Correctly stated and used methodological tools, adequate to the research objectives: analysis of normative, strategic and other documents was used; comparative analysis of theoretical developments and information sources related to modern trends, benefits and problems in the studied matter;

2. Content analysis of the dissertation research

Ensuring information security, as part of national security, is of paramount importance to restore trust in institutions, as well as improved efficiency and effectiveness of administrative services and record keeping.

In the first chapter "Essence and Elements of Blockchain Security" the following problems are posed and competently analyzed/developed in a logical sequence:

- Blockchain is considered one of the most promising achievements in the development of information and communication technologies. The use of the block system is already applied in various spheres of socio-economic life, and its application creates certain guarantees of increased security;

- Blockchain is defined as a system for recording information in a way that makes it impossible to change, manipulate or defraud the system;

- Blockchain technology creates a data structure with inherent security qualities. It is based on the principles of cryptography, decentralization and consensus, which guarantee trust in transactions and truthfulness of data;

- Blockchain technology can help dramatically improve security and reduce crime opportunities;

In the second chapter, "Blockchain Governance and Security", the following (necessary for the analysis) topics are successively examined and evaluated:

- The possibility of implementing a three-layer model for the implementation of blockchain in the state administration was analyzed;

- Digitization of relevant processes and then – to include blockchain as an additional layer, adding security and traceability;

- The introduction of digital identification will significantly contribute to economic growth worldwide;

- Implementation of the blockchain system for administrative services enables them to be more efficient, secure, fast and reliable. The use of blockchain systems to increase security, increase speed and preserve the authenticity of information in security systems - record keeping, archival, reference, documentary - is an opportunity for optimization, efficiency and safety in the process of inevitable digitization;

- Data authenticity and integrity are essential attributes of records and archives management. Integrity is a necessary condition for maintaining authenticity.

In the third chapter, "Blockchain-Based Digital Governance Model", the PhD student has analyzed, evaluated and systematized the following main points:

- Digital investments, which can support democratic institutions, rights-respecting government bodies and open societies in one context, can be used to suppress political dissent, abrogate individual freedoms and rights, and limit market competition;

- The architecture of the organization must enable digital governance whose technical components work together. This requires interagency coordination and standardization of processes, protocols, and policies. The overall corporate architecture enables the integration of systems and shared services between state administrative bodies.;

- The digital infrastructure must be based on optical networks and mobile networks with the 5G standard and even higher standards. These standards are for broadband cellular networks. The new networks have higher download speeds and peak speeds. Higher bandwidth ensures fast speeds and connectivity to a variety of devices.

3. Evaluation of scientific and applied scientific contributions

In the dissertation, the author analyzed the relationship between the alleged conditions and the research results.

Also, the doctoral student offers modern and modern solutions for change in the administration, as part of the state management of the country.

The proposed implementation practices and methodologies are fully applicable in all state and municipal administrations, as well as in the entire security system, despite the specifics of their activity.

4. Evaluation of the dissertation publications

On the topic of the dissertation, the author has indicated a total of 11 publications.

I positively evaluate the scientific and journalistic activity of the doctoral student. Literary awareness in publications may be accepted. I accept without doubt that the publications are the personal work of the candidate.

The abstract for the dissertation faithfully and accurately reflects its content, results and contributions. Its content follows the structure of the dissertation.

I consider that the number and content of the publications of the author of the dissertation meet the requirements for the award of the educational and scientific degree "PhD".

5. Critical remarks, recommendations and questions

I recommend the doctoral student to expand his research in the field of national security, such as based on analysis, synthesis, induction and deduction, and evaluation of research results to propose new solutions. Participation in international forums and the presentation of the researched matter will expand the possibility of international presentation of the doctoral student's contributions.

6. Conclusion

The dissertation presented for review meets the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Rules for its Implementation for the Awarding of the Educational and Scientific Degree "Doctor".

I give a **POSITIVE** assessment of the dissertation work on the topic: "Blockchain security in state administration" presented by Teodora Kirilova Licheva, PhD student at the Department of "National and International Security" of the New Bulgarian University and recommend to the esteemed scientific jury that he be awarded an educational and scientific degree " PhD" in the field of higher education 9. Security and defense, professional direction 9.1. National Security.

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Sofia

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(Prof. Dr. Ilin Savov, PhD, DSc)