

DOCTORAL THESIS SUMMARY

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Subject of the Doctoral Thesis:

Information system security of a public organization as exemplified by a high school

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The thesis titled *Information system security of a public organization as exemplified by a high school* forms an attempt to evaluate an information system operating in a school. The information system security was verified in the context of ongoing changes relating to the use of digital technologies, taking into account the specificity of the entity, namely a public secondary school. The study covered the internal and external user environment, which has a diversified structure due to the specificity of the school unit's operations. The main reason for writing the thesis was the absence of an evaluation of the information system security in the public secondary school, which would exhaustively indicate sources of threats and outline directions and methods for implementing changes in the area under study. The doctoral thesis forms an element of security science not only due to the new cognitive horizons contained therein, resulting from the author's reflections based on a thorough analysis of the literature on the subject and empirical material but also due to the attempt to show the concept of changes in the information system security area. The thesis thoroughly discusses the threats to the information system security, which, at present, are not fully recognizable and whose destructive impact cannot be precisely predicted. Moreover, there is an exceptionally low awareness of the essence of the threats to the information system security in schools and among the general public.

The opportunity to get to know the school environment from the inside allowed the author to define the problem areas that contributed to the assessment of the information system security level in the school.

The structure of the doctoral thesis includes theoretical and empirical parts. The thesis consists of an introduction, four chapters, an ending, a bibliography, a list of figures, as well as a list of tables and appendices. The Pearson's linear correlation coefficient and the coefficient of determination were calculated to verify the hypotheses formulated in the second, third, and fourth chapters.

The first chapter titled *Methodology of own research* raises the issues concerning the subject and purpose of the scientific research. It presents the research problem as well as working and detailed hypotheses. It discusses research empirical and theoretical methods, techniques, and tools. It also introduces the research area as well as characterizes the research sample.

The main research problem of the dissertation is as follows: *What changes should be introduced to the information system security in secondary education to improve information protection effectiveness?*

For the needs of the objective of the thesis and research problems so adopted, the main hypothesis was formulated based on the state of knowledge as well as an analysis of literature and projected changes: *It was assumed that the current information system in public organizations as exemplified by the high school does not fully protect information.*

The second chapter *Information system security* is devoted to information system security, considering the theoretical and legal contexts. This chapter discusses the importance of information and information security systems for organizations and the state. In terms of the legal aspect, the chapter gives an overview of applicable normative instruments, along with the standards and other generally applicable regulations. It presents a diagnosis of the information system functioning in the secondary school.

The third chapter *Threats to the information system security* outlines threats to the information system security and discusses aspects of the security system and its strategy. It presents norms and standards of the information system security applicable to the school. It characterizes threats to and limitations of the information system security in the school, resulting from the specificity of its operations and a large group of users.

The fourth chapter titled *Concept of information system security* includes a developed concept of information system security, which outlines new directions of changes to improve the information system security in the secondary school as a public organization. The changes concern the principles of operation and organization of the school's information system security.

In each chapter, conclusions were formulated resulting from verification of the adopted hypotheses, and final conclusions were made in respect of the discussed research problem.

The thesis ends with appendices, which are questionnaires for four research groups: teachers, students, parents, and administration employees, in which the collected empirical material was presented in quantitative and percentage terms, taking into account the structure indicator.

The appendices also include an expert opinion study report and a direct observation sheet on the organization and operation of the public secondary school.

The thesis exhausts the main research issue supported by an in-depth analysis of the literature on the subject, an analysis of empirical material, a case study, as well as the selection and application of the research methods appropriate for this purpose. In the content of the thesis, the author broadly and thoroughly discusses the issues relating to the information system security areas in public high schools.

