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**Summary of the PhD thesis:**

**“Information and communication technology Systems in emergency management of the State Fire Service”**

In the era of modern information technologies, ICT systems play a key importance in all aspects of social life, including organizational activity. They function as complex structures, integrating various technologies, communication networks, software, data and users in order that efficiently process, store and transmit information. Managing these systems is essential for organizations to achieve their goals in a dynamically changing environment.

Research and analysis of the ICT systems' structure are fundamental for their optimization and effective organization management.

In the context of crisis management, which is a set of activities aimed at preventing, controlling and effectively managing crisis situations, the dissertation emphasizes the specific role of the State Fire Service. This institution, not being a direct entity of the crisis management, prominently needs an information and decision-making model that would support crisis management processes, shortening the response time and improving the decision-making process.

Therefore, it has become so important to organize the scientific achievements in the field of information technologies supporting the crisis management process in the activities of the State Fire Service.

The main goal of the dissertation is to develop an information and decision-making model supporting crisis management processes for the State Fire Service.

Sub-goals:

G1: Organizing academic achievement and knowledge in the field of crisis management in the context of the needs of using ICT information management systems.

G2: Determining the effectiveness of the system supporting management processes in crisis situations.

G3: The impact of the management process supporting system on decision-making in emergency situations by the State Fire Service.

Main hypothesis: the usage of the information and decision-making model will

improve the efficiency of decision-making in the area of crisis management by the State Fire Service.

Specific hypotheses:

H1: The use of an effective information and decision-making model contributes to smart, unhesitating and appropriate decision-making in emergency situations by the State Fire Service.

H2: The concept of the information and decision-making model is a systemic solution to the problem of prevention, preparedness and response in a crisis situation.

The dissertation is structurally divided into five chapters. The first three are theoretical and the next two are empirical ones. The structure of the work, in the theoretical part presents the verification of Polish and foreign source literature, as well as includes legal acts and internal documentation of the state fire service. The research aspect presents the practical dimension of the ICT system in crisis management in the context of the State Fire Service activities for the Silesian Voivodeship.

The first chapter contains an overview of the basics of information management in organisation. It presents various aspects related to the information management that affects the functioning of organization. Methods and strategies for collecting, storing, organizing and sharing information in organisation were discussed. Another issue in this chapter concerns the informational resources management.

The second chapter presents the integrated system of crisis management in Poland. The aspects of crisis, crisis situation and crisis management are also discussed. The essence of crisis management as a process aimed at adequately responding to crises and minimizing their effects was also indicated. The final stage of the chapter is a description of the importance of effective and efficient flow of information in the crisis management system and guarantee of its availability and correctness.

The third chapter concerns the developing of knowledge about the structure of ICT Systems and their various aspects. The methods of protecting ICT Systems were studied, which allowed to understand what methods are used to provide information security and how to react to potential hazards. ICT systems supporting the crisis management process were also analysed.

The fourth chapter focuses on the evolution, education schemes and modernization processes of the State Fire Service in the context of the National Security

System of the Republic of Poland. The State Fire Service is presented as a key service aimed at protecting the life and property of citizens in emergency situations. The system of education and training for firefighters was also presented. Finally, the implementation of electronic document management as an important element of the State Fire Service modernization was presented.

The fifth chapter of the dissertation is devoted to the development of an information and decision-making model, which aims to support crisis management processes in the activities of the State Fire Service in the Silesian Voivodeship. Detailed stages and research techniques that were used in the process of creating this model were presented. The chapter focuses on the effectiveness and management in the activities of the State Fire Service rescue units. Research and analyzes on the effectiveness of fire brigade actions in crisis situations were presented.

The dissertation was ended with a summary, which is a synthetic presentation of the research carried out by the author and the most important conclusions result from the goals and research hypotheses formulated in the work.