

R E V I E W

From: Prof. **Valentina Lyubenova Nikolova-Alexieva, PhD**
University of Food Technology – Plovdiv, Professional field
3.8 . "Economics", Scientific specialty "Economics
and Management" (Business Economics and Corporate Governance)

Subject: dissertation for the award of a scientific degree **"Doctor of Science"**
in a field of higher education 9. Security and Defense, Professional
Direction 9.1.National Security at the Academy of national
and information security – Plovdiv (ANIS)

Reason for submitting the review: participation in the scientific committee
jury, according to Order No. 159/09.03.2026 of
the Rector of ANIS to open a procedure for dissertation defense

Author of the dissertation: DR. PIOTR MICHAEL DOMZHAL

**Topic of the dissertation: "SYSTEM MANAGEMENT OF SAFETY IN THEORY
AND PRACTICE – INTERDISCIPLINARY
PERSPECTIVE (CONCEPTUALIZATION) OF A
MANAGEMENT MODEL SAFETY)"**

1. Brief information about the candidate.

Dr. Piotr Michal Domzhal was born on April 28, 1984. He graduated with a Bachelor's degree in Pedagogy from the Higher School of Health Education in Łódź (2002–2005), then earned a Master's degree in Public Health from the Medical University of Łódź (2005–2007). In 2017, he defended his PhD in Social Work and Social Sciences at the Catholic University in Ruzomberok. In 2020, he completed a postgraduate MBA.

His professional career encompasses many years of managerial and academic activity. Between 2002 and 2017, he was the head of the rectorate at the Higher School of Health Education in Łódź. From 2014 to 2022, he held the position of rector of the University of Social Sciences, and from 2022 he will continue to hold this position. In the period 2020–2021, he was an associate professor at the Polish University of Częstochowa.

The candidate has extensive teaching experience in higher education, teaching courses on: legal and organizational foundations of management in social and educational services; public finance management; human resource management, motivation and conflict resolution; marketing of social and educational services.

His professional qualification is complemented by numerous postgraduate trainings in the fields of pedagogy, social work, healthcare management, occupational health and safety, as

well as specialized courses related to inclusive education, diagnosis of children with SEN, prevention and crisis interventions.

Dr. Domzhal has actively participated in over 15 international scientific conferences in Poland, Slovakia, Portugal and other countries, where he presented papers in the field of social work, governance, security and education.

His scientific output includes monographs, scientific articles, and co-authored publications dedicated to social work, aging, governance, hybrid threats, cybersecurity, geopolitical risks, and contemporary security structures.

2. Relevance of the problem developed in the dissertation

The dissertation is dedicated **to the systematic management of safety** in the context of a dynamic, risky and highly regulated environment. In the context of global transformations – digitalization, ESG requirements, increasing regulatory standards, shortage of qualified workforce and increased public expectations for safety – organizations are forced to build **integrated, sustainable and adaptive systems for risk and safety management**. The research is relevant because:

- **Safety is a strategic priority** for all high-risk industries, and construction remains one of the sectors with the highest rates of occupational accidents in Europe.
- International standards (ISO 45001, ISO 9001, ISO 14001, ISO 50001) require a **process, risk and integrated approach**, which the dissertation analyzes and conceptualizes.
- Concepts such as **resilience engineering, organizational sustainability, compliance management, and ESG** are becoming key to the competitiveness and sustainable development of organizations.
- There is a growing need for **organizational maturity models** to support the assessment and development of safety systems.
- The practical orientation towards a real international concern (PORR) makes the study **applicable, valid and useful** for a wide range of organizations.

In this context, the dissertation responds to real needs of business and society by proposing a model for systematic safety management that is both scientifically sound and practically applicable. *This makes it a significant contribution to the development of security and management sciences, as well as to the practice of organizational management in conditions of high complexity and risk.*

In this regard, it can be concluded that the topic of the scientific research is *dissertable and successfully chosen. It is extremely relevant and has great practical significance. The candidate has substantiated this significance and relevance very well.*

3. General characteristic on the presented dissertation thesis. Evaluation of the structure of the dissertation.

The dissertation is an interdisciplinary study of systemic safety management, which combines theoretical models from security, management and organizational psychology with an empirical analysis of the PORR concern. The scientific study defines safety as a multidimensional organizational process, examines the subsystems of safety (legal, technical, HR, information, risk and crisis) and proves that effective management requires an integrated, standardized and culturally supported approach.

The list of literary sources used lists **a total of 422 sources**, of which: **200 monographs, studies and scientific articles; 72 journals, legal regulations, company documents and online sources.**

The indicated literary sources are current and directly related to the topic of the dissertation. The systematizations and summaries made demonstrate thoroughness and conscientious work with literary sources, skills in applying analytical and deductive techniques to process a significant volume of information with various research methodologies. All citations and comments by the author are correctly displayed, which facilitates references to the cited sources.

The presented dissertation is 350 pages long. Structurally, it includes **an introduction, 5 chapters and a conclusion.** The results were obtained using modern tools and are illustrated with appropriately selected **50 figures** and **16 tables.**

The introduction to the dissertation formulates **the main objective** and **four** logically related **tasks for its achievement.** **The object** and **subject of the research** are correctly defined, as well as the author's main **thesis, according** to which *improving the quality, standardizing and optimizing activities that affect safety, as well as the formal control of operational risk and compliance with laws, regulations, standards and internal policies, while mitigating legal and reputational risks, integrates safety into the broader context of socially responsible activities. PORR's safety management model is a holistic approach that integrates quality, safety, environment, ethics and social responsibility. This allows the company not only to meet regulatory requirements, but also to build an organizational culture based on continuous improvement and accountability.*

The candidate's participation in the discussions on the researched problems is active and reflects the skills to express one's own critical thinking and formulate new conclusions and findings. The tasks are fulfilled in the course of the research, and the formulated research thesis is proven. The structure of the dissertation research is logically constructed and corresponds to the set goal and tasks.

4. Evaluation of the content of the dissertation.

The first chapter presents the theoretical framework of the dissertation and outlines the main management concepts on which the subsequent analysis is based. Fundamental elements of management are examined - functions, principles, evolution of management thought, strategic management, organizational culture, leadership, human resource management and organizational learning. The author traces the development of management schools - from classical approaches (Taylor, Fayol) to modern systemic and situational models, as well as modern concepts such as TQM, Lean and knowledge management. The role of strategic thinking, adaptability to the environment and the importance of organizational culture for management effectiveness are emphasized. The chapter ends with the positioning of safety as an integral part of the overall management system, which prepares the basis for the subsequent empirical and applied parts of the dissertation.

Chapter One successfully fulfills its function as a theoretical foundation, but could be even stronger if it included more pronounced criticality, clearer conceptual modeling, and a closer connection between management theories and the specific issue of safety.

Chapter Two presents the multidisciplinary foundations of security, the legal and systemic framework of safety management, as well as the key areas that shape organizational security. It builds the theoretical foundation for the empirical analysis in the following parts of the dissertation and outlines the holistic nature of safety as an organizational function. The

chapter begins by examining security as a complex, multi-layered and interdisciplinary phenomenon, which is formed at the intersection between: social sciences (sociology, psychology, political science), management sciences, technical disciplines, and legal sciences.

This part argues for the need for an inter- and transdisciplinary approach, as security-related phenomena are hybrid, dynamic, and difficult to isolate from the social and technological context. The key concepts covered are: Resilience / organizational resilience (the ability of a system to absorb disturbances and maintain functioning), Resilience engineering (proactive risk management, adaptation and learning) and Security as a social construct (dependent on culture, perceptions and context). This part presents the regulatory framework that defines the requirements for organizations in the field of safety. The following are analyzed: international standards (ISO 9001, ISO 45001, ISO 14001), European directives, national regulations and internal corporate policies. This lays the foundation for the Total Safety Management concept, which will be developed in the PORR model.

Chapter two defines the key subsystems of organizational security that are analyzed in PORR:

- Business and administrative-legal security – asset protection, contracts, legal risks, compliance.
- Physical and technical safety / OHS – prevention of occupational accidents, technical risks, accidents.
- Personal security / HR security – competencies, behavior, organizational culture, social policy.
- Information security – data protection, cybersecurity, access management.
- Crisis security and risk management – identification, assessment, monitoring and response to threats.

This structure shows that safety is a network of interconnected subsystems, not a single function.

Chapter three outlines the research questions and methodological framework of the dissertation, defining the object, subject, objectives, problems and paradigm of the study. The chapter proves why safety management is an interdisciplinary and transdisciplinary scientific problem and why PORR is a suitable empirical case study for conceptualizing a model for systematic safety management. This chapter outlines a methodological framework. The study is interpretative and descriptive, based on: analysis of facts, processes and phenomena; understanding of the context and interrelationships. The methodology used is based on a qualitative approach – for a deep understanding of the phenomenon. Case study – PORR was used as an empirical field and documentary analysis of internal documents, procedures, reports, bulletins. To achieve the main goal and the tasks set, a grouping method (authors' opinions, methodological characteristics, influencing factors, companies) was used; the analogy method; graphical methods; statistical, parametric, non-parametric methods and those from the group of probabilistic modeling.

The chosen research methodology allows for a high degree of realization of the set goal and obtaining an adequate answer to the tasks solved in the dissertation.

Chapter four presents **the empirical part of the dissertation**, in which the theoretical concepts from the previous chapters are applied to the real organizational practice of the **PORR concern**. It analyzes how the safety management system functions in the company, what its components, interrelationships and level of organizational maturity are. The chapter begins with a description of: the structure of the PORR group, its corporate policy, strategic goals, the normative and regulatory environment in which it operates. It is emphasized that PORR operates in a high-risk sector, which requires an integrated, standardized and sustainable approach to safety. Chapter four evaluates: the criteria for the effectiveness of the safety system; the indicators used (KPI, KRI); the feedback mechanisms; the implementation of the concept of continuous improvement. An assessment of PORR's organizational maturity in the field of

safety is derived. Chapter four concludes with a synthesis of the established strengths of the system. It identifies gaps, risk areas and factors that affect effectiveness, laying the foundation for the conceptualization of the model in chapter five.

One of the key results of the chapter is the identification of the interrelationships between the individual subsystems and their integration into a unified safety management system.

Chapter Five presents the final conclusions from the research and conceptualization of the system safety management model at PORR. It summarizes the results of the analysis of organizational practice and shows how the individual safety elements are integrated into a single, mature and sustainable management system. The chapter presents a conceptual model that describes how PORR organizes its processes, resources and policies to ensure safety and sustainability. Key features of the model: integration of ISO standards through a common structure and risk approach; synergy between subsystems (OHS, risk, quality, environment, energy); PDCA cycle as a basis for continuous improvement; strong leadership and employee involvement; systematic management of hazards, incidents and compliance.

Chapter 5 summarizes that PORR is a mature organization with an integrated safety management system based on international standards, a process approach and continuous improvement. A conceptual model is presented that shows how strategies, processes, culture and risk management are combined into a single system for sustainable and effective safety management.

In conclusion, the dissertation is *a comprehensive, in-depth and interdisciplinary study* on organizational safety management, *developed on the example of PORR. The work combines theoretical concepts from security sciences, management, organizational psychology, engineering sciences and legal framework to build a model for systematic safety management applicable in complex, high-risk and dynamic environments. I highly appreciate* the literature review, the methodology used, as well as the fulfillment of the tasks set to achieve the research goal. *Dr. Piotr Domzhal knows the contemporary literature on the research problem and possesses the necessary theoretical level for research and analysis of socio-economic problems, formulation of scientific theses, through empirical evidence and formation of scientific generalizations. The candidate completely correctly applies the proposed methodology for conducting the empirical research. The work contains specific results and empirical evidence that objectively reflect the real achievements of the conducted scientific research.*

5. Evaluation of scientific and applied scientific contributions.

Contributions can be divided into *scientific* and *applied science*.

❖ **Scientific contributions** include :

- An interdisciplinary theoretical framework for systemic safety management has been developed, which integrates concepts from security sciences, management, organizational psychology, engineering sciences, and legal regulation.
- The need for a transdisciplinary approach to studying safety as a social, organizational and technological phenomenon has been proven.
- The structure of organizational security is conceptualized by identifying key subsystems: legal, technical, HR, information, risk and crisis, communication, and compliance.
- A theoretical model for organizational maturity in the context of safety has been developed, based on CMMI and adapted to high-risk production environments.
- A new analytical perspective on the interaction between organizational culture, leadership, and safety management systems is formulated.

- ❖ The **scientific and applied contributions** include:
 - A comprehensive empirical analysis of the safety management system at PORR was carried out, which serves as a real-life example of the functioning of integrated systems in an international construction corporation.
 - The interrelationships between safety subsystems have been identified, allowing for the construction of a holistic management model.
 - A conceptual map of safety-related processes has been developed, including mechanisms for control, monitoring, auditing and continuous improvement.
 - International standards (ISO 9001, 14001, 45001, 50001) have been adapted to the specific context of PORR and the conditions for their effective integration have been described.
 - A model for assessing organizational maturity has been developed, applicable to the diagnosis of other companies in the construction sector.

- ❖ The **applied contributions** include :
 - A comprehensive model for systematic safety management at PORR is proposed, which can be implemented or adapted by other organizations in the construction industry.
 - Practical recommendations have been formulated to improve safety processes, risk management, compliance and corporate culture.
 - Organizational diagnostic tools have been created, including maturity assessment criteria, performance indicators, and control mechanisms.
 - Guidelines for digitalization and innovation (including the use of AI) in safety management are proposed.
 - Practical models have been developed for integrating the PDCA cycle into daily management practices, which supports sustainable improvement of the system.
 - I accept the contributions as real, credible and proven in the course of the dissertation research.

I consider the contributions to be the personal work of the doctoral student. *The conclusions and proposals in the dissertation present Piotr Domżał as an erudite researcher with good theoretical training, with the ability to make creative generalizations and formulate solutions for practice.*

6. Assessment of dissertation publications

Presented are **1 published book based on dissertation, 7 articles in global databases, 3 articles in non-refereed journals and 1 studies published in scientific journals, referenced and indexed in world-renowned databases of scientific information** . *In terms of volume and quality, they correspond to the requirements for obtaining the scientific degree "Doctor of Science".*

I accept all publications as directly relevant to the dissertation. They summarize and publish essential problems and results from the research in the dissertation.

In addition, **21 quotes are presented**, of which **6 number of articles** in scientific

publications, refereed and indexed in world-renowned databases with scientific information and *15 issues* in monographs and collective volumes.

7. Evaluation of the abstract of the dissertation

The presented abstract of the dissertation is *25 pages long*. It reflects the goals and objectives of the research, the emphases of the individual chapters of the dissertation, as well as the author's scientific publications. The author's contributions are not indicated in a separate section. According to the requirements for preparation, it is recommended *that the abstract reflect the main results and contributions of the dissertation*.

8. Critical notes, recommendations and questions

- **Main opinion:** quality dissertation, excellently illustrated, with potential for development.
- **Critical notes:** I have some critical notes that do not diminish the value of the dissertation research, but could serve in the future in the academic growth of the candidate.
 - the theoretical part is rich, but in places overly descriptive without enough: a critical comparison between different theories, an assessment of their limitations, an argumentation as to why these particular models were chosen as the basis of the study;
 - the relationship between theory and empirical model could be more clearly structured;
 - safety culture and digitalization are underdeveloped - there is no systematic analysis of digital safety tools and cyber risks are not considered as part of integrated safety;
 - the empirical analysis is strong but limited to one case study;
 - the model is conceptually stable, but can be supplemented with quantitative indicators and a methodology for implementation;
 - the methodological part could be more precisely argued.
- **Recommendations :** the doctoral student has the potential to publish in publications that are refereed and indexed in world-renowned databases of scientific information (Scopus / Web of Science)
- **Questions :**
 - What are the main advantages of the proposed model over existing international frameworks (ISO, CMMI, OHSAS)?
 - What specific safety improvements can be achieved by implementing the model in PORR?
 - How can digitalization and AI be integrated into the model to further enhance safety?

9. Conclusion

Given the merits of the dissertation, the relevance and complexity of the researched problems, the need to seek effective solutions to them in practice, the good theoretical level of



the researched and analyzed problems, it can be summarized **that the presented dissertation meets the normative criteria for awarding the scientific degree "Doctor of Sciences" /ZRAS, Art. 12, and Art. 13/ and the Regulations for its implementation.**

The above results from the study dedicated to "**SYSTEM SAFETY MANAGEMENT IN THEORY AND PRACTICE - AN INTERDISCIPLINARY PERSPECTIVE (CONCEPTUALIZATION OF A SAFETY MANAGEMENT MODEL**" provide sufficient grounds for **a high assessment of** the candidate 's scientific potential and research opportunities .

All of this allows me **to confidently vote YES. for awarding PIOTR MIHAL DOMZHAL the scientific degree "Doctor of Science" in the Field of Higher Education 9. Security and Defense, Professional Field 9. 1. National Security.**

28.04.2026
Plovdiv

Reviewer:

/ Prof. V. Nikolova-Alexieva, PhD/