
OPTIMIZING FIRE SAFETY IN BULGARIA THROUGH INTERNET TECHNOLOGIES

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Abstract: The article focuses on the main points in defining the hypothesis of optimizing fire safety in Bulgaria through Internet technologies as a possible and adequate strategy for the successful development of fire safety and civil protection authorities. The topic represents a distinct view on organizational change – from conservative behaviour to e-governance.

Keywords: optimization, computer systems and Internet technologies, e-governance, fire safety, Chief Directorate Fire Safety and Civil Protection, Ministry of Interior (CD FSCP-MOI).

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Introduction

Aspirations for realizing and maintaining growth and sustainable development constantly pose challenges to organizations, especially in the current conditions of a global, dynamic and unpredictable environment. The public sector also faces certain difficulties – functioning under budget and regulatory constraints, serious efforts to meet high public expectations and new requirements for the extent and quality of activity and services offered. The various financial, economic and political crisis phenomena additionally generate a number of challenges to management and require optimizations to improve the quality and quantity of manufactured products and/or services offered, to reduce and decrease costs and time, to improve public image and corporate image. The modern approach to the desired efficiency and the necessary flexibility relies on the capabilities of

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modern technology. (Laudon & Laudon, 2011). On the one hand, they are applicable as a tool for solving optimization tasks and express an increasing affinity of strategic management with automated systems for forecasting, planning and supporting decision-making. On the other hand, new technologies are also viewed as solutions to optimization tasks. At an operational level, computer systems gain ground as an integral part of business processes while communications are recognized as a prerequisite for reaching optimal performance values. At a strategic level, optimizations are performed to enable organizations to fulfil their mission, pursue their vision and achieve certain goals.

The socio-economic reality described above does not exhaust the arguments regarding the significance of the topic for optimizing fire safety through Internet technologies. According to the official web portal of the Ministry of Interior of the Republic of Bulgaria (<http://www.mvr.bg>), optimization of similar nature has not been applied to the fire safety and civil protection system in Bulgaria. Such a measure would be the logical and justified strategic behaviour if interpreted as an expected expression of the Euro-Atlantic orientation of the country and as sharing the principles generally accepted in the European community (European Union, 2014). At the same time, the subject-matter also includes the policy towards developing and introducing e-services, which the state acknowledges as an up-to-date and mandatory administrative reform in line with the Strategy for Development of the State Administration 2014-2020. (Council of Ministers of the Republic of Bulgaria, 2014).

The article aims to justify and explain the development of a specific mechanism for optimizing fire safety in Bulgaria through Internet technologies. The essential tasks of achieving this goal include:

- a review of the current understanding of 'public administration management' in the context of socio-economic and public-private relations in the so called 'information society';
- a short analysis of the fire safety and civil protection system and its institutional profile in relation to the policies on informatization of business processes;
- working out the 'pivot points' for the consistent and expert design of the e-governance of the Chief Directorate Fire Safety and Civil Protection under the Ministry of Interior (CD FSCP-MOI).

1. Management and Technology

The introduction of computers in various aspects of life has also predetermined the widespread use of terms such as ‘computer systems’, ‘Information technologies’, ‘Internet’, ‘Internet technologies’. A more thorough interpretation and comparative analysis of their definitions may reveal significant differences in nature, architecture and purpose. Beyond the specifics, these terms are commonly used as synonyms, which can be explained by their general nature – computers.

The conceptual identity under consideration also stems from the characteristic application of computer technology, communication systems and the Internet for information management (Stair & Reynolds, 2010). Managers focus their efforts on the complex and structured data processing for the efficient use of information flows as a source of intangible resources. The effective knowledge management to derive and share information embodies topical aspects of corporate culture (Clair, 2017). Computer systems are not just household or office equipment, information and internet technologies are not just standard public services. Moreover, to assist information management, the following are intensively developed: technologies for the rapid collection, processing and storage of data; convenient and accessible mechanisms for communication and information exchange; powerful tools for searching, comparing and analysing data; intuitive systems for analysing information and generating knowledge.

It is not a coincidence that in today’s management visions (Lucas Jr., 2009) computer systems and internet technologies are a natural and important component of business environment. Moreover, the willingness to fully exploit their capacity argues management solutions for transformation and reorganization to improve performance through ‘reengineering of business processes’. (Mohapatra, 2013). Redesigning and ‘computerization’ of functional models generates new concepts of organizational behaviour, called ‘e-governance’ and ‘e-government’ (Barrenechea & Jenkins, 2014). According to the adopted Strategy on the Development of e-Government in the Republic of Bulgaria for the 2014-2020 period (Ministry of Transport, Information Technologies and Communications, 2014), e-government is viewed as “electronic governance of regulatory interconnections, administrative processes and services and interaction with users by using information, statistical and mathematical models and methods of data processing, information and knowledge providing a much higher level of management efficiency”. For businesses, this means a new philosophy of organizing and managing labour whose principles are effective and sustainable functioning, transparency and consumer orientation. For state institutions, public e-

governance is the leading policy for the development of e-government (macro-governance of the state through e-services for citizens and businesses and information interaction in administration).

2. Management and fire safety

In Bulgaria, the phrase ‘fire safety’ expresses chronologically different definitions as terminology, as a state policy and a scheme for its implementation (principles, normative framework, responsible institutions and scope of their activity). To date, the provision of fire safety and protection against fires, disasters and emergencies in Bulgaria is carried out by the structures of the Chief Directorate Fire Safety and Civil Protection under the Ministry of Interior and by employees appointed under a contract between the Ministry of Interior, and interested parties. The obligations of fire safety and civil protection authorities, laid down in the Ministry of Interior Act (State Gazette, issue 53/ 27.06.2014, last amend. and suppl. State Gazette, issue 77/ 18 September 2018), include: preventive works; state fire control; fire-fighting and rescue; licensing and control activities of traders performing activities for ensuring the fire safety of sites and/or maintenance and servicing fire safety devices, systems and equipment; conformity assessment and control activity of firefighting products; emergency restoration works; operational flood protection; search and rescue operations; chemical, biological and radiation protection; early warning and announcements of disasters and in the event of air hazards to inform executive authorities and population; methodological and expert assistance given to territorial divisions of the executive authorities in terms of disaster protection and organizing the activities of voluntary formations; defining the fire characteristics of products and technical and operational features of firefighting equipment and firefighting products. The scope and content of individual activities are laid down in the Rules for organization and activity of the Ministry of Interior (Prom. State Gazette of the Republic of Bulgaria, issue 60/ 22.07.2014, ..., last amend. and suppl. State Gazette of Republic of Bulgaria, issue 97/ 23.11.2018 Sofia). The terms and conditions for carrying out the activities are defined in ordinances and instructions given by the Minister of Interior.

The legal framework assigns fire safety and civil protection units a solid set of functions, greatly expanded after the closure of the Ministry of Emergency Situations and incorporating the Civil protection units into the Chief Directorate Fire Safety and Civil Protection under the Ministry of Interior. The incorporation was regulated by an amendment to the Ministry of Interior Act (State Gazette, issue 88/ 09.11.2010) without a specific strategy

for reforming the structure and procedures for the implementation of operational, preventive and control tasks.

The lack of a principled stand and conceptual interpretation is also found in the implementation of information management. Typically, the Directorate handles a large amount of information (about individuals and legal entities, events and processes) without a unified and scalable mechanism for registering, storing and statistical analysis of data. Furthermore, the issues of document turnover and correspondence with individuals and legal entities are particularly sensitive when implementing preventive and state fire control.

The official web portal of the Chief Directorate Fire Safety and Civil Protection under the Ministry of Interior (<https://mvr.bg/gdpbzn>) has published strategic documents concerning the structures for fire safety and civil protection: Strategy for the development of voluntary formations for protection against disasters, fires and other emergencies in the Republic of Bulgaria for the 2012-2020 period; Programme for modernization and provision of technical resources of territorial units for fire safety and civil protection in the Republic of Bulgaria; National Disaster Risk Reduction Strategy for the 2018–2030 period; National Programme for Disaster Protection 2014-2018; National Programme for Disaster Protection 2009-2013; National Action Plan for Disaster Protection. Some of them analyse the structural units and their activities in a limited volume and in a format in compliance with the needs of the respective strategy or policy. There is a lack of in-depth research into work processes and their dependence on computer technologies.

In this context, the above-mentioned modern perceptions of effective management associate “optimization of fire safety through Internet technologies” with “fire safety informatization”. The goal thus set broadens considerably in terms of scope and content – it is not only about the isolated introduction of new functionalities of Internet technologies but also about the implementation of a complex set of measures and activities to revise the processes and interconnections existing in institutions and the orientation towards a new form of organization and management – e-governance. This means a necessity to rethink and update the understanding of ‘fire safety’. A comprehensive analysis of the Chief Directorate Fire Safety and Civil Protection under the Ministry of Interior concerning structure, activity and communications is needed to provide a basic strategic document (defining the mission, vision and priorities of fire safety and protection bodies in accordance with the current legal framework and the national internal security policies as well as for developing e-government).

The answers to these fundamental questions require, above all, the development of a fire safety and civil protection e-governance concept. The concept thus formulated means drawing up specific regulations for:

- optimal productivity and financial savings through computerized solutions for speed and convenience of employees working at all hierarchical levels.
- modern public service by providing electronic administrative services;
- strong public relations through active presence on the Internet and the possibility of electronic access to information and feedback.

The expert addition to the proposed reforms determines the precise definition of principles and requirements in hardware and software provision, the regulatory analysis and correction solutions, the review and report on good world practices in the field. In an applied form, the fire safety and civil protection electronic governance concept should serve as a matrix for the creation and implementation of computer systems and technologies for the needs of fire departments. Examples of similar products are the web-based automated information systems for supporting main areas of activity – dispatch of forces and resources in the event of disasters and crisis situations, registration and statistical analysis of disasters kept under control by operational teams, implementation of state fire control and preventive works, human resources management and training.

The topic specificity also explains the challenges of the actual application and implementation of the determined optimization and reorganization scheme. Taking them into account is an integral part of the completed and well-established type of the strategy necessary for the comprehensive digitalization of the fire safety and civil protection system. Operational difficulties (mainly driven by the expected ‘resistance’ on behalf of employees and by a lack of interest among managers) can be overcome by additional efforts to: adequate presentation and promotion of the benefits of the envisaged reform; clear specification of the rights and obligations of all employees in vertical and horizontal direction; introduction of a control and reporting system with specific rules, deadlines and evaluation indicators on the implementation of the determined programmes and projects. Strategic difficulties (especially in risk management) can be overcome by preliminary identification of possible threats and preparing for relevant pre-emptive actions by regulating buffers and contingency procedures.

Conclusion

The complex 'introduction' of computer systems and Internet technologies in the implementation of programmes for successful operation is a modern management instrument. Therefore, the optimization of fire safety through Internet technologies should provide an innovative approach to reforming the Chief Directorate Fire Safety and Civil Protection under the Ministry of Interior and subsequently address the problems resulting from a shortage of financial and human resources. In this connection, it is necessary to:

- synthesize a structural and functional model for electronic governance of fire safety, which satisfies the specific needs of the institution and at the same time takes into account the policies and regulations for the introduction of e-government in the country determined by the State e-Government Agency with the Council of Ministers of the Republic of Bulgaria.

- develop a strategy for the digital development of fire safety and civil protection bodies providing a specific 'reengineering' plan with the relevant objectives and measures to achieve them.

Although the envisaged 'horizon' for innovation and productivity improvement is not perfect and follows certain conventions, it provides opportunities for correct institutional positioning of the Chief Directorate Fire Safety and Civil Protection under the Ministry of Interior in conditions of constant digitalization and specifically towards the development of e-government in Bulgaria.

References

Barrenechea, M. & Jenkins, T. (2014). e-Government or Out of Government. Canada: OpenText Corporation.

Chief Directorate Fire Safety and Civil Protection under the Ministry of Interior of the Republic of Bulgaria. (2018). Official web portal of CDFSCP-MoI, <https://mvr.bg/gdpbzn>

Clair, G. S. (2017). Knowledge services: A strategic framework for the 21st century organization. Berlin: De Gruyter Saur.

Council of Ministers of the Republic of Bulgaria. (2014). Strategiya za razvitie na darzhavnata administratsiya 2014-2020. Sofia.

European Union. (2014). The EU explained: Digital agenda for Europe. Luxembourg: Publications Office of the European Union.

Laudon J.P. & Laudon, K.C. (2011). *Management Information Systems: Managing the Digital Firm* (12th ed.). Upper Saddle River, NJ: Prentice-Hall.

Lucas Jr., H. C. (2009). *Information Technology for Management*. Global Text Project.

Ministry of Interior Act. Prom. State Gazette of the Republic of Bulgaria, issue 53/ 27.06.2014, ..., last amend. and suppl. State Gazette of the Republic of Bulgaria, issue 77/ 18.09.2018, Sofia.

Ministry of Interior of the Republic of Bulgaria. (2018). Official web portal of Ministry of Interior of the Republic of Bulgaria. <http://www.mvr.bg>.

Ministry of Transport, Information Technology and Communications. (2014). *Strategiya za razvitiето na electronnoto upravlenie v Republica Balgariya za perioda 2014–2020*. Sofia.

Mohapatra, S. (2013). *Business Process Reengineering Automation Decision Points in Process Reengineering*. Boston, MA: Springer US.

Pravilnik za ustroystvoto i deynostta na Ministerstvoto na Vatreshnite Raboti. Prom. State Gazette of the Republic of Bulgaria, issue 60/ 22.07.2014, ..., last amend. and suppl. State Gazette of the Republic of Bulgaria, issue 97/ 23.11.2018. Sofia.

Stair, R. & Reynolds, G. (2010). *Principles of Information Systems*. (9th ed.). Boston-USA: Course Technology.

State Gazette of the Republic of Bulgaria, issue 88/ 09.11.2010, *Zakon za izmenenie i dopalnenie na Zakona za ministerstvoto na vatreshnite raboti*. Sofia.

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Core Perspectives of Performance Measurement in NPOs: in Search of Accountability and Legitimacy /3

Lyudmil B. Krastev

Theoretic Aspects of Financial Controlling in the Firm /17

Trayan Yosifov

Condition of the Bank Loan Market in Bulgaria /28

Ina Lecheva

Policies and Procedures of Ex-ante Control for Legality /40

Vladimir M. Damyanov

Optimizing Fire Safety in Bulgaria Through Internet Technologies /51

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