THE CURRENT NEED OF EDUCATION IN THE FIELD OF RISK MANAGEMENT

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Abstract

The main objective of the paper is to design a competency model for the study programme Risk Management. The model focuses on knowledge and skills which the graduates need in the field of risk management. It proposes key subjects needed for training of managers or risk management specialists. The model is based on long-lasting experience of authors, expert analyses and research in the fields of risk management and tertiary education of future risk managers. The processed paper results are applicable in the design of the new study program Risk Management at the Faculty of Security Engineering, University of Žilina, Slovakia. Moreover, the results can also be used in various study programs focused on enterprise risk management, economics, financial management, quality management and other related programs.

Keywords: Risk, Enterprise, Crisis, Knowledge, Education, Management.

1 INTRODUCTION

The current business environment is characterized by turbulent and dynamic changes. This situation affects the management of operational processes in business as they are disturbed not only by traditional but also by new threats and various unexpected unpredictable crises (e.g. financial and economic crisis). Due to these crises, managers are forced to deal more frequently with risk management issues. New conditions require new approaches. The solution may lie in accepting legitimate demands for broadening or changing the competencies of managers. Therefore, it is necessary to update the classic competencies of managers with new skills and knowledge needed for identification and analysis of risk and crisis in an enterprise.

The paper reacts to the current state of preparedness of enterprise owners and managers in the application of procedures and tools of risk management. It justifies the need of creating a model of managerial competencies which would reflect their preparedness for changes in external and internal environment and for effective risk and crisis management. The main objective of this paper is to design a model of competencies of graduates of the study program Risk management. This model is focused on skills and knowledge in the field of risk management and proposes key subjects of the new study program Risk Management. The designed model is based on surveys and analyses of the problem of the need of risk management in Slovakia and worldwide and it addresses the need of training in this field.

The authors possess expert knowledge of the problem and have long-lasting experience with training and application of procedures of risk and crisis management in enterprises. They are teachers and research workers at the Department of Crisis Management, Faculty of Security Engineering University of Žilina, Slovakia.

2 METHODOLOGY - ANALYSIS OF CURRENT REQUIREMENTS FOR TRAINING IN THE FIELD OF RISK MANAGEMENT IN SLOVAKIA AND WORLDWIDE

The risk perception and the processes of risk management are considered a topical problem nowadays. Enterprises are subjected to various threats, irrespective of their size or business activities [1]. Besides globalisation processes, environmental, social and technological crises and natural disasters, they are endangered by risks related to economic and political development and risks involved in management processes.

Recently, it is possible to see an increased perception of the need of risk management in companies, which is not limited to insurance processes [2]. Managers must be prepared for adopting important decisions in their enterprises.
Those decisions are focused on prosperity, financial stability, and competitiveness under conditions of uncertainty and risk [3]. Various foreign studies have demonstrated positive impacts of risk management on the quality of provided information, decision making in risk situations, increasing the value of an enterprise, its better competitiveness, continuous improvement and risk prevention in its business activities [4, 5, 6].

The key global investors also confirmed that they do have aversion to risk but to surprise and therefore they require greater transparency in risk management issues [7]. They are convinced that the reliable application of risk management processes can bring more positive effects and fewer negative surprises. It can contribute to a better financial stability of an enterprise and can bring more opportunities to increase profit [8].

The current global trend in risk management is to create special teams that would solve problems of risk management and manage risks. The risk teams usually centralize various responsibilities and risk management processes into one department. Based on various global surveys, it is possible to conclude here that the enterprises consider centralized departments and main risk managers as added value for strategic decisions in an enterprise [9, 10, 11].

The application of risk management processes and their awareness in Slovakia cannot be perceived positively [12]. In comparison to developed countries, in many enterprises the approaches to risk management are not systematic enough. There is a notable absence of central framework of risk management strategy, and the existing one is often not consistent with the central enterprise strategy. There are also related problems of content definition issues, risk accountability, absent risk criteria definitions, lack of focus on the identification of risk triggers, etc. [13]. The main causes of these issues are often the approach of managers, undervaluing risk in an enterprise, lack of knowledge and practical experience in risk management application.

In 2013 the authors conducted statistical research focused on business risks in small and medium-sized enterprises in Žilina region. This research was part of the solution of the project FaME/2013/MSPRISK: “Identify current trends in the area of business risks of small and medium-sized enterprises in selected regions of Czech Republic and Slovakia.”

The research concluded that it was necessary to increase risk management awareness with enterprise owners and managers responsible for keys processes, including risk management methodology, causes and effects of risks and risk reduction measures. The absence of risk management may be one of the main causes of business failure and the loss of competitive advantage of Slovak companies [14].

The acquired results of own risk research in Slovak enterprises as well as conclusions of other researchers highlight the importance of preparing for pitfalls of current business environment. To improve the level of risk management in Slovak companies, it is necessary to gain theoretical knowledge about and practical skills in specific risk management activities, processes, structure, risk management principles, methods and tools [14,15,16].

The preparation of professional workers able to solve the issues from the point of view of risk management is becoming a part of university study programs worldwide. The risk management issues have been included in professional economic and management courses [16].


Universities teach risk management as a part of their economics or management study programs. Some of them offer their own specialized programs. The European universities with their own risk management study programs include: Boccoli university, School of Management, Milano, Italy (Master in Risk Management), MIB School Management, Terst, Italy (Master in Insurance and Risk Management), Munich University, Germany (Study of quantitate methods in Risk Management), Institute for Crisis Research of the University of Kiel (Germany), Instituto Polite de Castelo Branco (Portugal), Quantitative Risk Management Centre, University of Southampton (Great Britain) etc. [17,18].
Besides the mentioned universities, there are universities where risk management is a part of their study programs in a broader sense, for example: Institute for Risk Research, University of Waterloo (Canada), Chair in Risk Communication, University of Calgary (Canada), The George Washington University Institute for Crisis, Disaster and Risk Management (USA), Emergency Services College (Finland), Centre for European Security Studies (Austria) and many others which implement risk management in security studies [2, 9, 17, 18].

In the Czech Republic and Slovakia, there are universities with managerial study programs but none of them offers a study program (or even a module) specialized in risk management. [19]. In most of them, risk management is integrated in economics or management study programs and focuses on specific fields, e.g. risk management in the banking sector, risk management in insurance services, risk management in technological processes, risk management of fire protection, risk management of natural disasters, etc. It is possible to say that the importance of risk management increases from local to global level. It can be confirmed by the number of study programs, institutes and organizations that deal with risk management nowadays. The banking and insurance sector are the main fields of risk management in the Slovak Republic, with their specialized risk management departments.

In most Slovak companies, risk management is reduced to EHS and partially also to financial decision-making processes with regard to risk. However, enterprises need well-prepared professionals in the field of financial management (banks and insurance enterprises), business continuity management experts (banks, insurance companies and telecommunication operators), project risk management experts (large-sized Slovak companies with foreign ownerships), etc. The need of risk management professionals is recognized by industrial enterprises, too. These enterprises create new jobs like: Chief Risk Officer, Head of Risk Management, Business Continuity Officer, Risk Analyst (Market, Credit and Operational), Project Risk Management Specialist, Regulators, Auditors, Supervisors and Financial Engineers [8, 10, 11]. It is possible to predict that the need of risk management professionals will certainly grow, not only in large enterprises, but also in small and medium-sized ones [1, 13].

Among educational institutions in Slovakia that deal with risk management, the Faculty of Security Engineering (FBI) University of Žilina, Slovakia has a special position. The Faculty specializes in management and technology and educates specialists for the needs of business sector and public administration. The primary aim of the Faculty is to provide tertiary education and to carry out scientific research activities in the framework of accredited bachelor, engineer and doctoral study programs in full-time and part-time forms. The Faculty provides opportunities for lifelong learning and creative scientific research, focusing on the issues covered by accredited study programs, i.e. security management, security and critical infrastructure protection, crisis management, rescue services [20].

The study program Crisis Management educates and trains students in the areas of crisis management theory as well as designing and implementing preventive measures to prevent crisis and eventually eliminating their negative consequences. The aim is to prepare experts in the field of crisis management for the needs of public administration and business entities. The issue of risk management is covered by specific subjects according to the study program Crisis Management. To address the future needs and respond to the requirements of risk management managers and specialists, it is necessary to modify and optimize the selection of subjects, their scope and contents [21].

3 RESULTS - APPLICATION OF COMPETENCY APPROACH FOR IDENTIFYING COMPETENCIES IN THE FIELD OF RISK MANAGEMENT

The basis for the model is the competency approach for identifying managerial abilities. On the basis of up-to-date knowledge and experience, approaches to various risk situations and after comparing various standards and norms related to this problem, we can state that the role of a risk manager is taken by an individual or entity that is responsible for:

- preparedness of the system to face and react to the impact of changes in external and internal environment,
- preparedness and implementation of active or passive risk reducing measures,
- timely reaction to the risk source increase,
- coordination of subjects, which take part in the process of risk identification, analysis and evaluation as well as risk management and reduction,
preparing precautionary measures, reacting to identified risk increase or a crisis emergence and managing processes of system function renewal.

There are various approaches to the problem of defining the competencies of a manager. The term itself can have various meanings: competency as a set of qualities, abilities to do something, as a qualification or as a set of responsibilities and authorities. With regard to management we talk about managerial competencies as personal characteristics of executive managers. We must, of course, mention that these personal characteristics are meaningful only if the managers’ range of authority is strictly restricted [15, 22]. Then we can define competencies of a manager as a set of knowledge, abilities, skills and experience together with physical and psychical readiness to be applied in effective executing of particular tasks according to given authority and general expectations.

Because the activities of a risk manager develop from general functions of management, we assume that it is suitable to specify basic abilities of a risk manager by general demands on work of directors. On the other hand, we accept that an important role will be played by the outputs of theoretical elaboration of the risk and crisis management, codified social needs and demands of responsible authority of public administration, expressed by laws, regulations, directives and other norms, including international agreements. An important source is also the experience of risk and crisis managers. Precise setting of the expected result standards is complicated but understanding the competencies on two levels (functional and personal), as in the Table 1, is more apposite.

<table>
<thead>
<tr>
<th>Functional Competencies</th>
<th>Personal Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating of strategy, goal assessment</td>
<td>Self-knowledge, self-evaluation</td>
</tr>
<tr>
<td>Managing of operations</td>
<td>Professional development</td>
</tr>
<tr>
<td>Managing of information</td>
<td>Physical condition</td>
</tr>
<tr>
<td>Managing of human and other resources</td>
<td>Mental condition</td>
</tr>
</tbody>
</table>

From this point of view, it is interesting to compare the already mentioned opinion with the opinions and experience of selected subjects of management in the Slovak Republic [19]. Much research has been focused on determination of managerial competencies. A survey conducted by the Faculty of Security Engineering, University of Žilina, analysed competencies of crisis managers but it is possible to use conclusions of this survey in determining the competencies of risk and crisis managers in the field of risk management. Other studies in Central Europe were targeted similarly [23, 24].

In the stage of mitigation and crisis planning, the most important activities also usable in risk management processes were defined as follows:

- collecting information about potential risks,
- analysing risk and crisis sources,
- investigating the probability of occurrence and rate of negative influence of particular factors,
- analysing previous crises and experience according to their solution, stating the prognosis, elaboration of crisis plans, inspecting their implementation on lower levels,
- inspection of preparation of preventive measures, processing of directives, procedures, verification of current crisis plans, their implementation,
- preparation of alternative solutions, selection of cooperating elements, training of people, scenarios, exercises, screening of readiness,
- collecting information about important and useful sources and means and others.

For the effective performance of these activities, the following important knowledge, abilities and skills have been defined:

- ability to observe and experience the environment and its changes,
- ability of quick orientation in demanding situations, to predict their development and consequences,
- knowledge of prepared information systems of risk management, particular database systems and the ability to use them correctly,
- knowledge of methods and techniques for risk source identification and analysis,
- ability to assess and to evaluate the individual risks and their possible consequences,
- ability to organize and coordinate tasks and activities of the members of a crisis crew, executive and cooperating elements and helping services,
- knowledge of laws, decrees, regulations and other norms which restrict responsibility, tasks, activities and their relations, ability to use them by coordination of particular subjects in risk management processes,
- communicative skills, ability to listen, understand the information and signals, know how to negotiate, influence, persuade, keep feedback, clearly and briefly formulate decisions and orders, seriously, briefly and quickly inform the public.

According to previous experience and this survey, it is possible to propose a kind of system of manager competencies, which accepts demands and specialties of risk management processes. We consider reasonable to accept their division into functional and personal competencies. The content of the functional competencies can be expressed in the following way.

The basis of the proposed model is the comparison of different competency approaches and the assessment of particularities of their applicability in the training of risk managers. It is possible to create a model of competencies of the graduate of a study program Risk Management, stating the relevant skills and knowledge needed in this field. An important source for the proposal elaboration is the knowledge of the conditions in the external environment, the expected risk sources, the development of future crises as well as the expected development of the graduate profile, past experience of the educational process and of the graduates’ application in real-life practice. The proposed competency model is the basis for the design of a new risk management program, as well as a re-evaluation of the current content, forms and methods of higher education in Slovakia.

![Fig. 1 General model of competencies of the graduate of study program Risk Management](image)

This model assumes several pillars of competencies of the graduated risk manager (Fig. 1):

1. General knowledge—basic prerequisites for acquiring specific abilities. The fact that college is a cultural establishment must be accepted as well as the fact that it is supposed to develop several aspects of the future personality.
2 Professional knowledge and skills – results of studying, with specific focus on understanding the functions of social life, political and legal environment, public administration and public services, business and non-profit organizations.

3 Knowledge of management and managerial skills - represents a set of abilities, which are based on knowledge of the basic principles of effective management. They are prerequisites for planning, analytical and implementation skills.

4 Experience of application of risk management – consists of a set of abilities which have not been understood as a separate competency pillar yet. It is a part of abilities whose consolidation is a weaker part of the subject content. The new forms of education must be applied in educational processes, such as:
   o case studies, focused on identification of risk sources in enterprises,
   o analysis of risk management documents,
   o using various methods and techniques of risk analysis,
   o assessing positive and negative decisions and their likely causes,
   o studies of videos of crisis situations and disasters,
   o traineeships and practical education for gaining specific abilities.

These competencies demonstrate the ability to perform general managerial functions as well as to apply personal (personal and mental) characteristics. It is very important for a manager to use them in practice, in unclear situations, under time, information, and moral stress, when some information is missing, when life is being threatened by a crisis situation. Forming personality traits is one of the most complicated processes, because most of traits are formed before the studies begin.

The basis for modification of the study program Risk Management, besides previous experience, contains factors reflecting the main focus of risk management. The managerial competencies are modified by the need of applying managerial functions and tasks into processes of identification of risk sources, risk analysis and assessment, preparation and implementation of measures for reduction of the assessed risks. The proposed competency model accepts general model of managerial competencies, but also provides an extension of the key competencies of managers and risk management experts which are needed to manage risk in an enterprise, Fig. 2.
It is possible to find elements of risk management principles in some Slovak study programs which are oriented on economic or managerial and technological fields of study. At the Faculty of Security Engineering, University of Žilina, the problems of risk management are closely studied within the study program Crisis Management. Especially after the last accreditation at FBI ZU, the subjects focusing on theory and practice of risk management have been substantially fostered. The risk management issues are studied within several specific subjects, in the study program Crisis Management, which was primarily focused on crisis management in public administration.

The proposed curriculum consists of main key subjects of the new bachelor degree program Risk Management at FBI ZU. The main changes will lie in preferring selected subjects (bold coded) which are essential for risk management application (Tab. 2).

Table 2. Proposed structure of key subjects in the new Bachelor study program Risk Management

<table>
<thead>
<tr>
<th>year 1</th>
<th>year 2</th>
<th>year 3</th>
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<tbody>
<tr>
<td>Sociology</td>
<td>Management</td>
<td>Basics of law</td>
</tr>
<tr>
<td>Economy</td>
<td>Managerial statistics</td>
<td>Dangerous substances</td>
</tr>
<tr>
<td>Business economy</td>
<td>Financial management</td>
<td>Enterprise crisis management</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Civil protection</td>
<td>Security of information systems</td>
</tr>
<tr>
<td>Logistics</td>
<td>Crisis management</td>
<td>Business Continuity Management</td>
</tr>
<tr>
<td>Environmental sciences</td>
<td>Managerial information systems</td>
<td>Emergency planning</td>
</tr>
<tr>
<td>Introduction to the risk theories</td>
<td>Small and medium business</td>
<td>Risks of industrial processes</td>
</tr>
<tr>
<td>Work Safety and Health Protection</td>
<td>Enterprise risk management</td>
<td>Methods and techniques in risk manage</td>
</tr>
</tbody>
</table>

With regard to the future needs, it might be necessary to rationalize and optimize the selection of subjects so they will address current requirements for risk managers. It is also necessary to assess the growing needs of practice and requirements for professional and methodologically prepared risk management experts. Other education opportunities and specializations must be considered as well, for example focus on preparing, understanding and implementing analysis in Comprehensive Emergency Management, solving business crisis by Business Continuity Management and Business Crises Management, etc.

4 CONCLUSION

The mentioned opinions and conclusions of the survey and other analyses indicate that the education of risk managers should be based on the tasks that managing risk situations requires. The education and training of risk managers, who will coordinate activities of executive teams on various posts, including the leading posts, is a social necessity. Our experience shows us that training by learning much theoretical knowledge is not sufficient. We must search for and identify key skills and abilities of effective managers in demanding situations. Correct and quick decisions aimed at eliminating negative impacts of natural, technical and social systems and dealing with the consequences of accidents require well-prepared managers in enterprises, public administration, professional and voluntary emergency management organizations.

Current practice has led to the need of deeper theoretical knowledge of the issue of risk management. The proposed competency model of the necessary knowledge and skills of risk management processes respects the need of preparing risk managers at different management levels and responds to current changes in Slovakia and abroad. There is a need to design a new risk management study program at FBI ŽU. It is necessary to identify and create a new graduate profile, new subject curriculum, new subject content, new structure of qualified teachers as well as a new methodology of the whole study program.
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