RISK MANAGEMENT IN INDUSTRIAL ENTERPRISES

Assos.Prof. Toni Mihova, PhD 1, Assos.Prof.Valentina Nikolova – Alexieva, PhD 2
Assistant Prof. Tania Gigova 1

Technical University – Sofia, branch Plovdiv, Bulgaria 1
University of Food Technologies – Plovdiv, Bulgaria 2

mihova@tu-plovdiv.bg; valentina_nikolova@abv.bg; t_gigova@abv.bg

Abstract: The authors report on the essence of risk management in the enterprise as an effective management tool in today's rapidly changing business environment. The report targeted to indicate the attitude of the managers in this process, based on a survey, as demonstrate the need for a more comprehensive approach to risk management.

Keywords: RISK MANAGEMENT, INVESTMENT RISK, FINANCIAL RISK, BUSINESS RISK

1. Introduction

Risk management in industrial enterprises is very hot topic today on the one hand because of the extremely important role of industry in the global and national economies and on the other - from the growing uncertainty in the results that industrial enterprises rely as their goals and expect to achieve by its activities. Processes of globalization and increasingly rapid technological development contribute to this uncertainty.

The report aims to show the current state of risk management in Bulgarian enterprises also formulate more substantive issues, and the author's view of what needs to be done to fully improvement of this activity. The report summarized the results of research carried out for this purpose in two hundred large industrial enterprises in Bulgaria. This report summarizes information provided by respondents who completed Risk Management Survey between January 2012 and April in 2014. The respondents of this survey are registered members of Confederation of the Employers and Industrialists in Bulgaria and they are more managers and practitioners interested in a comprehensive approach to process management and related concern like risk management. The main goal of this survey is to draw picture of the ways that risk management is being used in the Bulgarian organizations today and the results reflect the perspectives of a broad base of Bulgarian managers interested in. Report offers to reader's insights into the kinds of risk management development efforts currently underway and the ways their own company’s risk management efforts compare with those of other companies.

2. What is the essence of risk management?

According to the Deloitte’s definition of risk “The risk is the possibility of losses - or reduced profits - caused by factors that may adversely affect the achievement of the organization”, which according to the authors most accurately expresses its essence. [1].

The concept of risk management has been developed in recent years and has different definitions. According to the experience of Marsh key points in the definition of company’s risk management (RM) are as follows: “Basic structured approach that supports the alignment of strategy with processes, people, technology and knowledge to assess and manage the uncertainties that an organization faces while creating value. For this purpose, the organization must be provided with information about the quality management making decisions in a more effective manner and with more confidence”. [2].

The essence of risk management in the enterprise is built around his pragmatic use as an effective management tool that also be a major boost to increase in value. In contemporary business environment, the need for a more comprehensive approach to risk management that ensures the development of alternative responses to risks has a major importance. Every business carries risks. Therefore, risk management is essential for any business process. It prevents foreseeable risks prevents bad investments and reduces damage from unforeseen events. Enterprise Risk Management (ERM) is a process, which organize and control activities in order to minimize the effects of risk. In the 'risk' here includes not only the risk of unexpected losses, but also financial, strategic, operational and other types of risks, i.e more comprehensive approach to risk management.

Widespread popularity has acquired following COSO ERM’s definition of risk management 'process performed by a board of directors, management and other personnel, applied in setting the company's strategy, designed to identify potential events that could have an effect on company, and manage risk to be within the risk appetite, to provide reasonable assurance regarding the achievement of company objectives’ [3]. The term "risk appetite" is a risk that the organization is ready to take to be in line with the strategic and operational objectives to maximize value for stakeholders. Risk management in the organization requires the company to have a versatile look at risk.

More significant basic principles of risk management are: raising awareness of the risk; specific action plans; the lowest risk capital requirement; better link between strategy and operations; effective management and change control; organizational culture should encourage an environment that promotes opportunities for managing risks, not eliminating them overall.

Risk management is a process including: development and implementation of strategies, identification of risk assessment and risk measurement, risk responses, testing and risk control, monitoring, maintenance and continuous improvement .

At the consulting practice there is using the framework COSO ERM, which defines the main components offers a common language and provides a clear purpose and direction for risk management in the organization.

Eight interrelated components are typical for this framework: internal environment, setting targets, identifying events, risk assessment, risk response, control activities, information, communication and monitoring. [1]

In summary it can be concluded that the most salient features of this framework is as follows:
- establishes the philosophy of risk management;
- formed a risk culture within the organization;
- take into account all other aspects concerning how the actions of the organization could affect the risk culture;
- includes the identification of these incidents occur internally or externally, which would affect the strategy or achievement of the objectives set out therein;
- examines the way in which internal and external factors combine and interact with each other, and how they influence the risk profile of the company;
- allows an organization to acquire an exact picture to what extent the potential events might affect the achievement of objectives;
- using a combination of qualitative and quantitative risk assessment methodologies;
- management identifies, captures the relevant information and transmits it in a form and timeframe that enables people to carry out their responsibilities;
- the communication has a broader scope and it is distributed horizontal and vertical within the organization.

It is essential to clarify the concepts associated with a risk intelligent organization and risk policy.

**Risk intelligent organization** starts to manage the risk with determination of the strategic objectives; unifies operations management and risk management; creates links between units; understand the interactions between different risks; manage risks as a daily activity.

**Risk policy** is a long term action plan consists of guidelines and principles designed to achieve the objectives of risk management. Key elements are: goals, risk management vision, risk appetite, risk management framework, the risk management process; minimum requirements; roles and responsibilities. [3]

What kind of risks are faced industrial enterprises?

In economic theory, regarding the individual company most attention is given to the three main types of risk - investment, financial and economic risk (business risk). [4] Although they address different aspects of business, they are closely related and affect complex activities and state of the enterprise. **Investment risk** is the probability that actual cash flows (earnings) of an investment to be lower than expected. The financial risk associated with the use of foreign capital in the business. This is the risk of insolvency and more severe form - failure due to accumulation of financial obligations that can not be repaid. **Business risk** is defined as the possibility of adverse changes in market and economic conditions in which the entity operates. These changes directly or indirectly affect the economic fundamentals of the enterprise, such as sales, revenues, financial results, cash flow, return on capital, economic value added, etc. Business risk includes several components: macroeconomic and political risk; industrial risk; market risk; internal company risk; risk in terms of factor markets. [4] Macroeconomic risk is related to the general economic situation of the country and the business. The significance of this risk is determined by the phase of the business cycle, inflation, interest rates, trade and tax legislation including Government tax policy, the level of GDP; growth rates, investment, exchange rates, foreign trade, balance of payments, unemployment, etc. There has been a decline in the gross domestic product (production) and investments when the economy is in recession. At the same time, unemployment is increased. This inevitably affects the volume of sales of both consumer and investment goods [5]. In the practice it is considered that when the decline in production (GDP) remains at least six months there is a recession. Stagnation is a prolonged and deep recession, which is characterized by massive bankruptcies of companies with uncertain market positions whose financial result is highly sensitive to changes in sales volume, i.e. companies with a high level of business risk. In contrast, under stable economic conditions, sales and financial performance of companies is constantly increasing. Different types of business and individual firms are differently exposed to macroeconomic risks. For example, cyclical companies, i.e. those companies who are more sensitive to the macro cycles should have higher beta-coefficients. Such are, for example, construction companies and car manufacturers. At the times of crisis, sales of these companies fell dramatically, while in periods of economic boom sales mark unbelievable growth. In contrast, companies in the food and tobacco industry [6], [9] for example, are less sensitive to economic conditions and have lower beta coefficients.

**Industry risk** is related to the status and organization of the industry, the degree of monopolization and competition, legal and administrative restrictions [8] in the sector and others. When analyzing the business risk of an enterprise must be given the specifics of the industry and its organization, the market share of the company and competition. As a rule, companies with larger market share, monopolies and oligopolies are favored in terms of business risk because of their ability to influence the product and factor markets, respectively on prices, production and consumption. Usually the sales and profits of such companies are stable and have little variation for a certain period of time [10], [11]. Largely, the business risk is determined by the nature of the activity and specificity of the procedure. Companies from heavy industry and high-tech industries are characterized by high investment absorption. For this kind of business are required huge investment. **Market risk** is defined as the probability of a reduction in sales volume due to the adverse impact of market factors - reducing consumption, the emergence of competitors, the emergence of substitute goods and other market reasons character [7]. We should note that sometimes the loss of sales could be due to reasons internal to the enterprise, rather than external (market) factors. Such circumstances may include quality deterioration, ineffective advertising, improper marketing and pricing policy, etc. Changes in sales volume greatly influence the amount of cash flows and financial results, and therefore on the performance indicators and added value. A potential decline in sales will affect the financial situation of the company. It is clear that the business risk and financial risk are closely related. Not only managers and owners, but also potential investors (and sometimes business partners and creditors) need information about any changes in sales volume and how they would affect the profitability and value of the enterprise. **Intercompany risk** can be defined as the probability of a reduction in sales and efficiency due to adverse impact of internal company factors. Very often, reducing sales and efficiency due to reasons of internal, rather than external (market) factors. Such circumstances may include quality deterioration, ineffective advertising, improper marketing and pricing policy, poor organization of the production process, supply problems, problems with staff and others.

**Risk in terms of factor markets** is associated with any adverse changes in these markets, such as raising the prices of factors of production (materials, energy, fixed assets, payroll, etc.), loss of supplies, supply delay, the emergence of deficient and others. This reflects negatively on the cost of production or services on the organization and timing of production and sales, and ultimately affects profit, added value and performance indicators. Let us imagine, for example, industrial company, whose production has a high material consumption (higher share of material costs in the cost price). Rising prices of production materials will significantly increase the cost of production [7]. Often, however, companies in this situation can not afford to increase selling prices adequately and in a timely manner, if there is no competitive advantage since risk their sales to fall dramatically (at high competition in the industry and high price elasticity of sales). This risk classification is used in research conducted by the authors in two hundred large Bulgarian industrial enterprises.

### 3. What are the results from the study?

For settle what is the importance of risk management and how it is being used in the Bulgarian organizations today this survey was held in 200 Bulgarian enterprises between January 2012 and April 2014. In this case we sent an e-mail to the membership of Bulgarian Chamber of Commerce and Confederation of the Employers and Industrialists in Bulgaria – CEIBG invited them to participate in the survey. We had 200 people completed the survey in this period. Partial completes are not included in the tabulations. In the charts and tables that follow the survey, some of the totals will add to less than 200 because some questions are not relevant to some respondents or because some questions allowed respondents to select more than one answer. In addition, total percentages do not always sum to exactly 100% because of rounding, or because the question allowed the respondent to select more than one answer.

The respondents were asked to identify the industry in which they worked. The categories match those used by Bulgarian Department of Labor. The largest group (68%) chose
Food/Beverage, and second largest group is from Financial services – 58%. The companies from Food/Beverage industry and from financial services industry is very competitive, generates high profit margins, and depends on computer systems to support or implement its services. Thus, they have always been quick to invest in any new IT hardware or software that might give them a competitive advantage. The next largest groups (53%) is in telecommunications and from the computers/consumer electronics/software industry (48%) and retailing (48%). Most of those choosing computers/consumer electronics/software are probably in the software area. The problem with this industry group comes in distinguishing those who are vendors of business process products and services, and those whose companies use BPM products to support their internal process work [6]. Other groups are as follows: Education –42%, Energy-35%, Light manufacturing – 33%, Business consulting –32%, Travel/Entertainment- 29%, Heavy manufacturing – 19%, Health care/Medical Equipment – 18% and Chemicals- 14%. The largest group (23%) chose “Other”, and most of those identified their industry as consulting.

Questions in the questionnaire and interview with managers of companies are focused on exploring the capabilities of risk management in the enterprise. For this purpose we used COSO scheme to assess the level of “maturity” in risk management. Fig. 1.

The first question of the survey is related to the development of a risk management strategy in the enterprise. 60% of respondents answered negatively, 30% say they have developed such a strategy, while 10% say that they are in a stage of preparation for strategy development. The next part of questions are directed to the eight components of the framework COSO ERM - internal environment, setting objectives, identifying events, risk assessment, risk response, control activities, information and communication and monitoring. Analysis of the results from the study allows to divide survey participants into five groups according to the scheme of assessment “maturity” level in risk management.

The first group is the most numerous and covers 40% of the managers of establishments that fall into the “Fragmented” maturity level. Characteristics of this stage are:
- uncoordinated activities of risk management;
- limited focus on the links between risks;
- limited consistency between risk and strategies;
- diverse functions for monitoring and reporting.

The second group of participants - 30% are related to "Top-down" maturity level , for which is typical:
- general framework, program and policy;
- routine risk assessment;
- vertical communication about the biggest company risks with the top management;
- conscious action;
- formal risk consultations;
- reliable team.

The third group includes 20% of managers of industrial enterprises who have the lowest level of maturity - "Unaware", characterized by:
- chaos and
- individual qualities and abilities.

To the fourth stage of maturity level "Systematic" belong 5% of the interviewed managers. Its distinctive features are:
- coordinated action to manage the risk between the units;
- risk appetite is clearly defined;
- the risk is observed, measured and recorded throughout the company;
- contingency plans;
- risk management trainings.

To the fifth stage of maturity level so called "Risk intelligent" belong also 5% of the interviewed managers. Its distinctive features are:
- conducting discussions related to risks that are involved in strategic planning, capital allocation, product development, etc.;
- use of preliminary indicators of risks;
- link between assessment and performance incentives;
- modeling / development of risk scenarios;
- benchmarking and regular use of measurement standards by the industry;
- evaluating the capabilities of risk management in the organization.

The main conclusions resulting from the analysis are:
1. 60% of large enterprises surveyed have policies and strategies for risk management.
2. 60% of them belong to the lowest maturity levels of risk management, namely - "Unaware" and "Fragmented".
3. Only 10% of companies manage risk systematically and intelligently.

The above conclusions enable us to systematize the major problems concerning risk management as follows:
1. Process identification and risk assessment is perceived as a single action that held once a year and it is implemented as a daily activity. [5], [7], [8]
2. Uncertainties and inadequate management of the full spectrum of risks. [6], [9]
3. The lack of education and awareness prevent the introduction of risk management as an integral part of management ; [10], [11]
4. Conclusion

The main question is “What needs to be done to improve risk management in Bulgarian enterprises”?

1. Deep understanding of the overall framework for risk management.
2. Clear allocation of responsibilities for risk management in the enterprise.
3. Implementation of risk management as an integral part of the enterprise’s organizational activities.
4. Adequately prepared team.
5. Strictly defined control and supervision.

Overall, the major conclusion of this survey is that most Bulgarian organization remain relatively immature. Only a handful of firms are able to realize consistent, repeatable results. The firms that are achieving results are those that have made a commitment to a dedicated RM practice area, most notably, a COSO ERM framework. The leading companies are focused on moving from level 4 to level 5. Applying the framework COSO ERM can help Bulgarian enterprises to understand where they are today and to serve as a navigator on the way to achieving maturity in the risk management. Any enterprise can be placed at the appropriate level of maturity in terms of risk management. World’s leading companies today focus their efforts to move to the fifth level and they have already created process architecture that shows how to combine the basic and auxiliary process risks, which helps to build a risk management system that distributes the responsibilities of process managers provides resources, monitoring and measurement of risk.

In the contemporary rapidly changing business environment, managers need to rethink the overall philosophy of risk management in order to build a comprehensive approach to managing various types of risk in industrial enterprises. The report made an attempt to cover the main issues and point out the directions in which must be oriented risk management.

Literature


