

FACTORS INFLUENCING THE INNOVATION RISK IN INDUSTRIAL COMPANIES

Mag. Blaga Beluchova

Abstract

The process of organization, realization and management of the innovation activity is influenced by a large amount of factors - the innovation risk factors. It appears in different directions – stimulation the process of elaboration of a new products /technologies/, restriction of development, and even lock of the innovation activity of the company.

In this study we envisage the most important factors, with positive influence on innovations: management experience, entrepreneurship inspiration, highly qualified personal and intensive contacts with the branch associations.

Introduction

Factors influencing the innovation risk are usually considered as internal and external. Among internal factors the main obstacle for innovation's active companies is the lack of experience and it concerns first of all small and mid-sized enterprises (SMEs). Almost 90% of them have difficulties in this field. On the second place is the lack of information on recent achievements and technologies. This is the major problem for SMEs. The low technical and technological level is a restricting innovations factor. The predominant part of SMEs doesn't possess the necessary market information, a large amount of them face technological, financial and staff difficulties. The negative influence of the insufficient managerial experience in SMEs is lower, what may be explained with the fact that the SMEs owners are usually their managers. It may be assumed that internal factors may be grouped in three segments: **Technical factors**, on which depends companies' modernization and new technologies application. These factors may assure the necessary innovation level of competitiveness; **Organization factors**, allowing expenditures' minimization and higher efficiency in resource's application; **Economic factors**, determining company's behavior on the market concurrence overcoming, market and counterpart's selection etc.

Factors influencing the innovation risk

The innovation risk is under the influence a large amount of factors, the majors among them are:

Technical factors concerning company's innovation, are linked mainly with the technological modernization. Technological innovation appears as transition to new and most sophisticated technologies, aiming at to minimize expenditures and to achieve labor productivity growth. As by rule the importance of the technological innovation increases in conditions of relative saturation on the market, when new technologies are necessary for minimization of company's expenditures.

During the last years the understanding of the notion technologies has changed significantly. Actually it sense is larger and represents a mixture of physical and social elements of production process, and includes not only machines, equipment and materials, but also managerial, organizational and social conditions, enabling realization of production process. In that sense technological innovations are not only novelties, but also combination of new technology and supporting organization forms, ways of management and social conditions.

According to the company's activity the technological innovation is oriented mainly on production process and market behavior. In case of production companies technologies implementation concerns first of all the product creation process. In that sense the product innovation is a commodity or a service, which are new or significantly improved, what concerns their basic characteristics, construction, software, etc. It creates new necessities, satisfies existing demands, or is an entirely new production, which appearance is a result of the technological development. The process innovations have lower return of resources' input, in comparison with the technical innovations, and didn't improve significantly company's positions on the international market. The innovation process appears as new or improved technological processes, bringing higher productivity.

Organization factors include organization-managerial innovations, what means introduction of new organization structures, systems and methods of rule, different that the existing ones and the existing ways of production efficiency growth. The necessity of organization and managing innovations may appear as a result of changes in company's environment, or changes in the organization itself. The aim of the organization and managing innovations is the improvement of communication between company's levels and departments. Market innovations concern product's promotion on new markets, new ways of advertising, enlargement of market studies and cooperation with partners. Actually most intensive are innovations in e-trade. Social innovations in large sense concern innovations in education, health care, science, insurance, etc. In narrow sense social innovations are envisaged as solutions in the context individuals – organization. Social innovations mean also new position of individuals in the organization they are engaged, new responsibilities, and influences on organization procedures. On the process of organization and management of innovation activity influence a lot of other factors. Their influence is in different directions – development of new products and technologies, and on the other hand – they can restrict company's innovation activity.

Most important factors, influencing positively company's organization improvement are as follows: large managerial experience, entrepreneurship spirit, highly qualified staff and intensive relations with branch associations. These conditions correspond with company's mid-term and long term strategy, giving account to the internal and external influences, the economic environment and company's strength.

Besides the above mentioned factors, innovation risk is influenced also by:

Commodities life duration, becoming shorter, what makes shorter the term of new ideas appearance, commodities production and supply on the market.

Competitive environment – recently the number of large companies with monopolistic position decreases, many small, dynamic and competitive companies appear, often with aggressive behavior on the market.

Personal factors – their influence may be revealed as follows:

$$RM = Ms \cdot Ps \cdot Is + Mf \cdot Pf \cdot (-If),$$

where:

RM – Motivation functions (max)

Ms – Success Motivation

Ps – Subjective Probability for Success (0,5)

Is – Successive Result (simulation level)

Pf – Subjective Probability for Failure

Mf – Motivation avoiding Failure ($Mf < Ms$)

If – Dissimulating level of possible Failure

The environment, or the so called situation factors. They include the following influences:

They set up the structure of the problematic situation and appear in case of existence of particular problem;

Factors, located outside of the problematic situation. They appear outside the problem and depend from the general situation;

Factors to determining entrepreneurship behavior, revealed as follows:

$$B = f(D, E)$$

where:

B - entrepreneurship behavior

D - personal characteristics

E – environment.

Factors connected with the process of socialization and experience acquirement. They include:

Factors influencing the process of decision making and risk behavior, linked with: risk disposition; danger; reward; losses, etc.

The balancing behavior of the perceived risk is presented on figure 1.

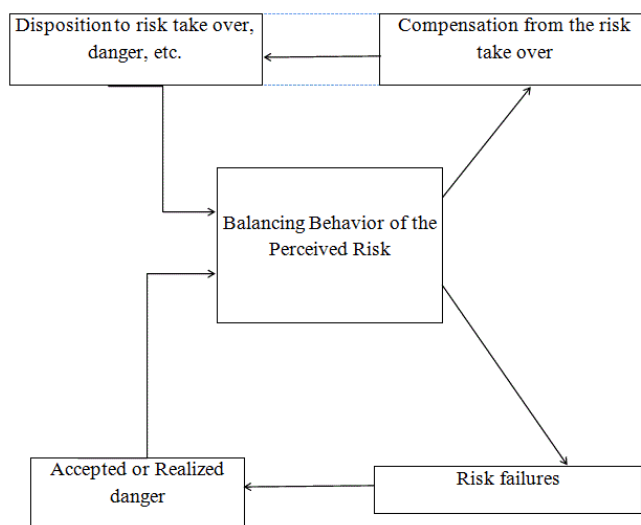


Figure 1: The Balancing Behavior of the Perceived Risk

Factor's influencing the process of decision making model

Factor's influencing the process of decision making model may be presented in a graph, where the following dependences are accepted as restrictions. Entrepreneurship risk formation as opportunity, danger and indetermination, risk situations appearance, risk

decisions, including risk take over, risk avoidance and risk neutrality.

The decisions concerning risk may be characterized by two particular features: disposition to risk and risk take over.

The dependences between model's components are presented on figure 2.

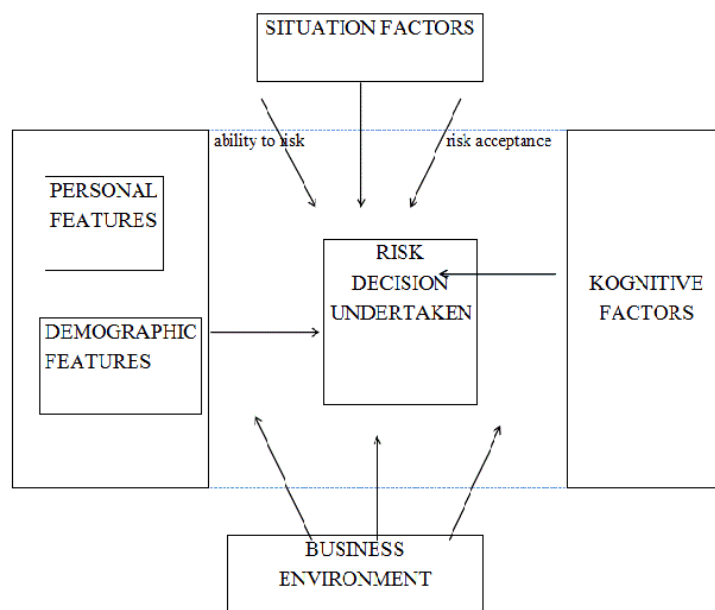


Figure 2: Model dependences

In case of **approach selection** and influencing factor's determination in the process of risk decision making, most important effects taken into account, are as follows:

- a/ personal characteristics, including success motivation and control localization;
- b/ demographic features;
- c/ cognitive factors, as resent experience, self-confidence, representatives;
- d/ situation determinants (business environment), including factors with direct and indirect influence.

Conclusions:

From the above mentioned dependences the following conclusions may be submitted: the innovation risk is influenced from both internal and external factors, when the relative importance of their effect depends on the characteristics of the individual, the innovation conditions and the specific appearances of the risk situations.

Literature:

1. Aleksandrova, M., Risk Management, S. 2007, (Bulgarian language)
2. Demirova, S., Innovation Activity of Small and mid-sized enterprises and Innovation Cycle Optimization, Doctorate, Technical University, Varna, 2010, (Bulgarian language)
3. Mateev, M. Analyze and Risk Assessment in Investment Decisions, S., 2000,
4. Chobanova, R. Economic Problems of Innovation Policies in Bulgaria, Economic Academy, Svistov, 2005.