International Review of Business Research Papers
Vol. 4 No.3 June 2008 Pp.222-232

RISK MANAGEMENT IN POLISH COMPANIES

Iwona Staniec

Considerations about the necessity of the implementation risk management in enterprises are presented in this article. The change in the business model is the result of the influence of the external conditions. It was extorted through the dynamically changing environment, the globalization process and the dynamic development of the technology. The paper provides a summary of results research from management risk in polish enterprises.

Field of Research: Risk Management, Risk Management Process, Options, Futures and Risk Management

1. INTRODUCTION

Managing a company is mainly based on reacting to events, which occur in the environment or the organisation itself. A company can shape its internal organisation to a large degree; however its influence on the surroundings is much smaller and ceases completely as far as more distant environment is concerned. The lack of influence on the environment does not imply, however, that one should not be prepared for any events, which may occur. Therefore, risk management has been developing quite rapidly both in Poland and in the world. There is a number of definitions and descriptions of risk management scope, its forms and objectives (Panjer 2006, p. 35). Risk management in a company should include all these areas, where the scale and value of operations justify acting according to precisely defined principles. There are many sources of risk in a company. They can be simply divided into external and internal. The possibilities of external risks management are at least limited, whereas effective internal risk management is possible and required.

2. LITERATURE REVIEW

The fact that an organisation gains profits is not just a coincidence or the effect of good management; in order to obtain regular profit, companies' personnel has to learn the proper risk management methods. It is evident from the results of many companies that this objective cannot be achieved without creating the proper awareness of all employees and establishing a risk management section or position. The purpose of their operation is to implement methods ensuring transparency of activities, allowing for identification and elimination of nonconformities occurring in the organisation, identification of 'weak points', improving processes, etc., which leads to increased efficiency of operations and preparation to face unpredictable external factors (Mun 2004, p. 134-165).

Iwona Staniec, Department of Management, Technical University of Lodz, e-mail: istan@p.lodz.pl.

The correct and systematic risk management shall become a valuable asset for managers and supervisors, support protection of capital, guarantee reliability of processes, reduce costs of operations and, in consequence, ensure effective management (Pickett 2006, p. 342). Thanks to the activities of risk managers, a company is able to better utilise opportunities and resist consequences of adverse events. Estimation of an event occurrence probability allows for preparing alternative action plans whereas introduction of the risk concept to organisation personnel allows for creating awareness of the negative events occurrence possibility prior to the event.

The objective of a risk manager's activity is (*Risk* 2002, p. 32):

- defining a catalogue of threats and opportunities,
- establishing hierarchy and a risk map,
- defining measures of an event occurrence influence on the organisation,
- involving personnel in collection and distribution of information about risk areas,
- preparing emergency cases and introducing risk management into the process of the company strategy realisation.

The systems proposed by a risk manager should be able to influence (Levine 2007 p. 23-43):

- improvement of information flow by collecting dispersed data from many sources and preparing an efficient system of information flow regarding the potential events occurrence,
- improved identification of correlations,
- automatic and efficient data processing according to multiple parallel scenarios allowing for easier identification of data correlations,
- combination of quantitative and expert methods,
- combination of objective data processing with the possibility of intuitive modification of parameters by providing for flexible approach to risk assessment.

As evident from the above, risk managers play an important role in an enterprise management, from strategic planning and competition analysis to efficient cost and profit forecasting. Theoretically, there are four main groups of risk managers. The first group includes risk analysts, who assess threats in each process by monitoring threat-causing factors. The other group includes managers – regulators, who take responsibility for analysis, preparation and modifications of regulations, instructions and procedures. They also prepare guidelines for an enterprise operation. The third group includes managers - methodologists, who check efficiency of the applied risk assessment tools and submit proposals for improvement of such tools, regarding the appropriate risk quantification. The last group is made of department or section managers, who analyse risk in different departments of an organisation, from the quantity and quality point of view, i.e. the share of risk exposed processes or operations in different areas. The effect of their work is risk assessment for the whole enterprise (Reuvid 2007 p. 23-34).

According to the banks' experience, an ideal risk manager should be a graduate of economics or financial faculty with the knowledge of economic – financial status

assessment methods, legal forms of securities, restructuring, characteristics of risk-exposed processes or operations, internal and external legal regulations. A risk manager must also have analytical and concluding skills, the ability to predict and identify potential risks related to a process or operation, make decisions. Preparing an analysis and risk assessment, which decide about the strategic decisions for an enterprise is a stressful task (Sheffi 2005, Spinard 2006). Enterprises also support each other in building a system where consulting companies manage risk. The recent research (http://www.deloitte.com) shows that Deloitte Touche Tohmatsu is the best advisor in the category of Enterprise Risk Management Consultants Q4 2005, as it was ranked first in the global ranking for enterprise risk management consultants.

The following aspects applied by Deloitte were highly assessed during the research:

- strategic vision of ERM (Enterprise Risk Management),
- the ability to implement a full ERM strategy, integrating ERM with the whole culture of operations,
- the ability to present advantages of ERM to customers in a clear way,
- the implemented methodologies, customer relations and many years of professional experience.

3. METHODOLOGY

In order to reduce the influence of negative external and internal factors, enterprises implement various forms of economic risk management. There are three main stages in risk management process:

- risk analysis connected with identification, estimation of scale and establishing hierarchy;
- active approach to risk connected with elimination, reduction, grouping, division and transfer of risk;
- financing of risk connected with the possibility of individual insurance or economic insurance.

In the process of risk assessment, special attention should be paid to economic and financial consequences of risk, identified with benefits or losses. From the methodological point of view, these consequences depend mainly on:

- considering all (advantageous and disadvantageous) factors in the social economic circumstances,
- accurately predict probability of events (directly related to the performed task).

The basic element of risk management is its monitoring. Monitoring of the risk factors is an indispensable element of the process supporting enterprise management. It should be part of a system supporting the decision making process. It is related both to primary data as well as to the processed figures. Continuous analysis of risk factors leads to application of preventive measures, which would not be possible without the use of research methods adjusted to current technology level and the possibility to collect and process information. The approach to risk factors monitoring depends on the point of view on the risk problems. The following approaches have been differentiated in literature (Bizon-Górecka 1998, p. 50):

- social – emphasising threats to people; in an enterprise, such threat is related to the risk of redundancy, reduced pay or other employment-related issues;
- market – including all phenomena, which negatively influence correct operation of an enterprise.

In risk factors monitoring, the monitoring methods applied depend on the possibility to acquire information about the scope of potential threats. The following methods are applied (Łuczak 2003, p. 47):

- qualitative- allow for recognising the nature of an observed phenomenon;
- quantitative – using strong signals for assessment of phenomena and make decisions in a risk situation.

Qualitative methods techniques supporting risk monitoring are:

- descriptive risk assessment – a description of previously identified source of potential problems and actions allowing for risk reduction as well as expenses, which must be made to remove the risk,
- profile analysis – allows for identifying critical threats, which require special monitoring, considering weak and strong points of an enterprise;
- early warning systems – help in changing the decision making situation and signal the approaching threats,
- risk factors catalogue – helps to find ways to minimise risk factors.

Quantitative methods used in risk identification are divided into two main groups, depending on the area they pertain to in an enterprise: strategic or operations. The following methods are applied in the strategic area: scenario analyses or financial methods (profitability threshold method, foreign exchange risk management, indicators method, point of risk methods, etc.). The following methods are applied in the operations area: operation research methods, statistical or simulation. These methods allow for making precise calculations in each decision making area.

Scenario analyses apply multiple variants forecasts, presenting various development scenarios, i.e. projections of the future with different assumptions; in general there are optimistic, pessimistic and standard scenarios. Application of this method requires:

- recognising cause and effect relations,
- distancing from stereotypes;
- collecting signals and transferring them into a prediction of the future.

In early stages of the risk research, efforts were focused on financial risk only; therefore this area has been developed in the most extensive way. The following methods apply:

- profitability threshold method,
- foreign exchange management,
- risk indicators methods,
- point of risk techniques,
- risk management methods in investment projects, i.e. discounting methods, Groboillot, budgeting, CEA, DURATION, internal rate of return (IRR).

Optimisation techniques or management games can be also used in the strategic area for the purpose of risk identification.

The following techniques may be used to identify risk in the operations area:

- a decision tree – a graphic presentation of decision making situations;
- GERT – an analysis of a project in time allows for rationalisation of risk,
- decision models – allow for identifying an enterprise sensitivity to the change of entry conditions,
- queuing theory – helpful in solving problems of mass service, regarding optimisation of service depending on the number of calls,
- interdependence analysis – allows for defining the influence of change of one of the risk identification factors on others,
- probability analysis – allows for defining probability of occurrence of a given situation,
- standard deviation analysis – allows for defining the risk of occurrence of situations and variability of conditions,
- Monte Carlo – a simulation method allowing for predicting an enterprise reaction to a situation.

From the point of view of financial consequences, the most important issue is risk control, i.e. making decisions in order to reduce risk to the defined value. Risk analysis is accompanied with the emphasis on correlation between risk reduction and the objectives of an enterprise. Therefore, prevention of risk is related to losses of some opportunities and additional costs, mainly insurance, internal control and risk assessment. Risk management is the ability to find a compromise between the relevant level of profit and maintaining the allowed level of liquidity and risk. The scope of allowable risk should depend on (Lupton 1999, p. 23):

- risk situation of both the whole enterprise and its segments (from the organisation structure point of view),
- short and medium-term forecasts of economic situation in domestic market as well as macroeconomic factors,
- relations of the risk potential in each segment to the obtained revenue,
- amount of the company capital and reserves, which would cover potential losses,
- restrictions imposed by valid legal regulations – following the norms allows for gaining profits and ensure the relevant risk level.

Two main approaches have been distinguished in literature regarding risk control:

- active, based on influencing the causes of risk,
- passive, focusing on protection from potential losses.

4. STATISTICS ANALYSING

Within the research carried out by the Chair of Management at Technical University of Lodz, awareness of risk management was assessed as well as organisation conditions for implementation of risk management programs in Polish companies. The research was implemented on the basis of a questionnaire among 103 persons, whose description of duties included risk management, during the first half of 2006. The research resulted in the following findings:

- only in 8 (out of 103) enterprises have special sections working on risk management, involving five persons in two cases, four persons in one case, two persons in two cases and one person in three cases,
- none of the enterprises apply risk management in all areas of its operations; most often (as many as 90 enterprises) use occupational risk management – this is unfortunately still associated with the H&S function, 40 enterprises use financial risk management,
- 47 managers described their attitude towards risk as neutral, 32 as optimistic, 15 as pessimistic, 7 described their attitude as aversion and one person described his attitude as realistic,
- 45 managers make decisions, which bear some risk every day , 21 at least once a week; 18 at least once a month, others not so frequently.

In the research, the influence on the risk level on each management function was assessed in R.A.Likert scale and the obtained results are presented in table 1.

Table 1. Number of marks of relevant risk intensity for each management function

Risk intensity	Management function				
	Planning	organising	coordinating	controlling	motivating
none	3	2	1	7	8
1	1	18	10	13	30
2	2	9	15	15	24
3	3	13	31	31	11
4	4	28	27	21	19
5	5	27	8	17	10

Source: Own research.

The research results showed that according to 8 managers, motivating is a risk-free managing function, according to 3 managers – it is planning, according to 7 – controlling, according to 2 – organising and according to 1 - coordinating is a risk-free function. In their opinion, the strongest (highest) risk level is present in planning, medium – organising and controlling and the weakest (lowest) – controlling and motivating (see Fig. 1). Most managers pointed out a high risk level in planning function, medium level in organising and controlling, low level in coordinating and very low in motivating.

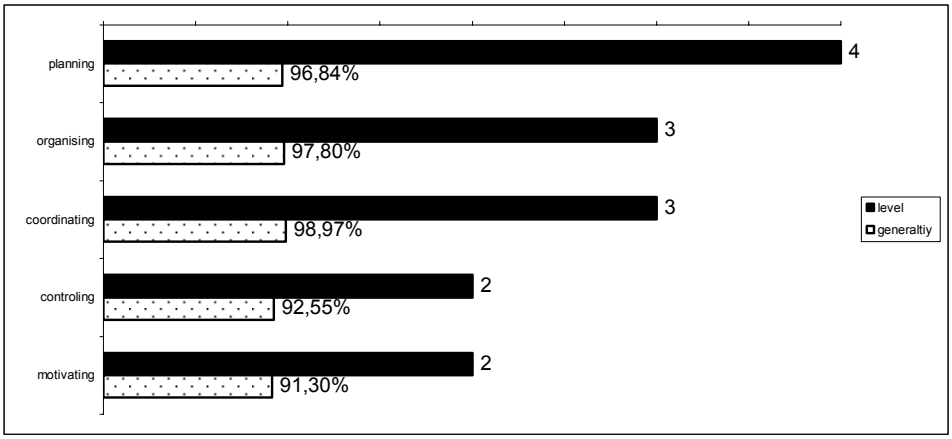

Fig. 1. Average risk level and presence in management function
Source: Own calculation.

The questioned persons agree in their opinions, which is confirmed by the value of relative dispersion indexes of the classification, fixed for each management function. These values are close to zero (table 2)and the lower value of this index, the more agreement in opinions.

Table 2. Values of relative dispersion indexes in classification

Management function	h_r
planning	0,073
organising	0,090
coordinating	0,068
controlling	0,075
motivating	0,116

Source: Own calculation.

We are informed by the values of relative dispersion for each management function that the surveyed persons agree as to the level of risk present in each management function. The respondents, asked what type of decision made in an enterprise was charged with risk, unanimously answered that these were strategic decisions (see Fig. 2). It was also confirmed by the results regarding risk level for strategic decisions. Most respondents – as many as 39% decided to rank this type of decision highest – 5 (in the 1-5 scale). Thus, 39% of the respondents claim that strategic decisions are charged with very high (highest) risk. Also 74% of the respondents claim that strategic decisions are charged with at least high risk.

The second in the ranking were, in respondents' opinion – operating decisions – 98,94% declared that they carry risk and the last in the ranking were tactical decisions with 97,80% marks.

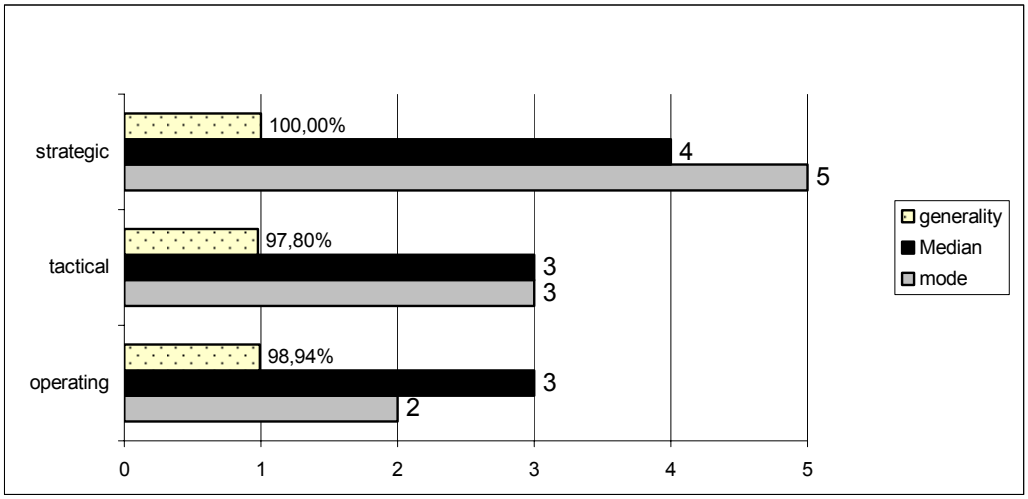

Fig. 2 Types of decisions in an enterprise charged with highest risk
Source: Own calculation.

The respondents (30%) most frequently declared level 2, i.e. low risk and average risk (29%) for operation decisions. 41% of the respondents declared that tactical decisions are charged with an average dose of risk. Also 50% of those, who declared that tactical decisions are charged with risk, decided that the risk intensity was at least average. Unfortunately, they were not so unanimous as regards the level of such risk (table 3).

Table 3. Values of relative dispersion indexes in classification

Type of decision	h_r
operating	0,074
tactical	0,128
strategic	0,135

Source: Own calculation.

The smallest differences of opinions regard operating decisions, which confirms a global tendency to focus on operational risk analysis. In the next stage of the research, the respondents defined which feature and with what force (scale 1-5) stimulates a manager's intention to take risk (compare Fig. 3).

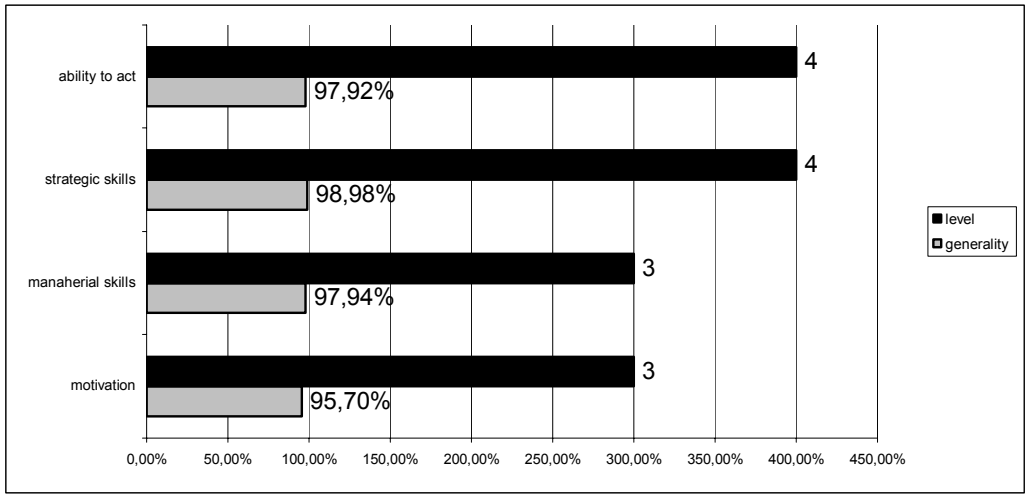

Fig. 3 Distribution and intensity of the features, which define a manager's intention to take risk
Source: Own calculation.

Most respondents (98,98%) declared that strategic skills influence a manager's intention to take risk. 97,94% of respondents declared that a manager's intention to take risk is influenced by managerial skills. In the opinion of the assessing persons, the strongest elements in evaluating the tendency to take risk are the ability to act and strategic skills. The strength evaluation for individual employees does not differ considerably. In 55,34% of enterprises no risk quantification methods are applied. 29,13% of respondents declared that descriptive methods of risk quantification are used in their enterprises and 13,59% declared that quantitative methods of risk quantification are used in their enterprises. Only two respondents declared that both methods (descriptive and quantitative) of risk quantification are simultaneously used in their enterprise. The research shows that in 49,51% of enterprises no risk identification methods are applied. In the respondents' opinion, the following risk identification methods are used in other companies:

- expected value in the opinion of 22,33% of respondents,
- standard deviation showed by 13,59% of respondents,
- VaR was mentioned by 4,85% of respondents,
- variability index was mentioned by 10,68% of respondents,
- FEMA was mentioned by one respondent.

Respondents declared that in 31,07% of enterprises no risk management strategy is applied. Other respondents mentioned the following strategies of risk management applied in their enterprises:

- 7,77% impassive;
- 22,33% expansive;
- 43,69% conservative.

In respondents' opinion, in 17,48% of enterprises no risk management tools are applied. In the remaining enterprises, the following methods are applied:

- avoidance of risk – in 20,39% of enterprises;
- reduction of risk – in 42,72% of enterprises;
- diversification of risk – in 28,16% of enterprises.

According to literary sources, risk avoidance method is the least resistance behaviour however it allows for freeing resources or operation from the risk. In the event when risk avoidance is not possible, one should attempt to control risk (none of the respondents mentioned this opportunity) by introducing preventive measures – influencing probability or reduction – influence in consequence of risk realisation. Therefore, Polish companies still opt to influence the consequences of risk. In respondents' opinion, the following risk management models prevail in their enterprises:

- individual in 60,82% of represented enterprises,
- aggregated in 39,17% of represented enterprises.

The research results show that 60% of enterprises apply active and 40% passive risk control methods. In respondents' opinion, as far as risk management is concerned, Polish enterprises prefer a limited growth policy in 62,24%, offensive in 20,41% and conservative in 17,35% of enterprises. The research results also show that managers do not perceive risk management as a process made of interrelated and consecutive stages.

5. Conclusion

It seems evident that in the ever changing business environment, risk management becomes a must. Unfortunately, Polish companies still choose to influence the consequences of risk, which seems to be a short-sighted approach. Managers must realise that risk management means more than just identification and control (or elimination) of the risk, to which an enterprise is exposed. This is, above all, the process of assessment of the risk influence on an enterprise operations result. Risk management involves nowadays different safety stages: assessment, planning, implementation and monitoring. The objective of the new, complex method is to prepare management-oriented assessments and recommendations, which could be integrated with the mission of an enterprise, its objectives and business priorities. In an ideal situation, risk management in an enterprise should become an integral part of daily operations. Involvement of enterprise personnel in risk management is of key importance to its future success. The causes of slow development of tolls used in risk prevention may still be little interest in risk management issues, which has been confirmed by the results of numerous published reports and studies.

References

An overview comparison of the AIRMIC/ALARM/IRM Risk Management Standard with: the Australia/New Zeland Standard AS/ NZS 4360:2004.

Comparative Study Of Corporate Governance Codes Relevant to the European Union And Its Member States, On behalf of the European Commission, Internal Market Directorate General, January 2002, www.europa.eu.int/comm/internal-market/en/company/company/news/corp-gov-codes-rpt-part1-en.pdf.

COSO Enterprise Risk Management – Integrated Framework, AIRMIC 2005.

Kuciński J. 2004 ‘Ryzyko żywioł do opanowania’, *CFO Magazyn Finansistów* Nr 2.

Levine R. 2007 *Data-Driven Operational Risk Management*, Risk Books.

Łuczak M. 2003, Ryzyko i kryzys w zarządzaniu przedsiębiorstwem, DrukTur Sp. z o.o Warszawa.

Lupton R.H. 1999 ‘A Modified Magnitude System That Produces Well-Behaved Magnitudes, Colors, And Errors Even For Low Signal-To-Noise Ratio Measurements ‘*The Astronomical Journal*, 118:pp.1406-1410, September.

Masny M. 2003, *Zaczyna się od burzy mózgów*, Dziennik ubezpieczeniowy 7.08.2003.

Mun J. 2004*, Applied Risk Analysis: Moving Beyond Uncertainty in Business***,** John Wiley & Sons.

Panjer H. H. 2006 Operational Risk: Modeling Analytics, Wiley.

Pickett S. K. H. 2006 Enterprise Risk Management: A Manager's Journey Wiley.

Reuvid J. 2007, *Managing business risk*, Kogan Page Ltd.

Sheffi Y. 2005, *The Resilient Enterprise: Overcoming Vulnerability for Competitive Advantage*, MIT Press (October 1, 2005), Cambridge, MA 02139.

Spinard W. 2006, *Enterprise-Wide-Risk Managment: A Holistic Approach*, Marsh Risk Consulting.

Vinella P. 2004, *A foundation for KPI and KRI, ”Operational Risk”,* vol. 5 nr 11, s. 45-68.