Risk management in companies and the importance of selected measures for overcoming the crisis

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Abstract: - The present article deals with the management of business risk. Business risk is fundamental to the long term success of a company and the achievement of its goals. Risks can be classified in various ways. There are basic categories of risk such as systemic risk, market risk, production risk, etc. Enterprises can substantially eliminate a certain part of the risk, although some risks cannot be controlled by the company.
The financial crisis has had a major impact on the success of firms. This crisis was due to the mortgage crisis in the U.S.
In order to verify the relevance of the chosen measures for crisis management, a survey has been carried out in the Czech Republic. Selected results of this research are presented in the article.

Key-Words: - cash flow, crisis, equity, financial measures, ratio, equity, cash flow, turnaround strategy

1 Introduction

The U.S. mortgage crisis of 2007 caused the global financial crisis which began in 2008. This crisis has had a strong impact on firms in the Czech Republic. The development of gross domestic product in the Czech Republic is given in Table 1.

Table 1Gross domestic product

Year	2006	2007	2008	2009	2010	2011
Gross domestic product - % (previous year = 100); constant prices	107,0	105,7	103,1	95,3	102,7	101,7

Source: [24]

A significant reduction in gross domestic product in 2009 can be seen from the table. Gross domestic product growth in subsequent years was only slight.

The development of the insolvency petition is given in Table 2.

Table 2 The development of the insolvency petition

Year	2008	2009	2010	2011
Firms	3418	5255	5559	6753
Individuals	1936	4237	10559	17600
Total	5354	9492	16118	24353

Source: [29]

Table 2 gives us information about the persistent increase of the insolvency petition. In particular, an increase among individuals is significant in the observed years.

Table 3 gives us information about the structure of the insolvency petition in particular industries.

Table 3 The development of the insolvency petition

Industry	Number of insolvencies on 1000 registered firms
Paper industry	9,83
Mining industry	7,6
Chemistry	6,24
Recycling	4,59
Food industry	4,39
Wood industry	4,14
Telecommunication	3,98
Leasing	3,84
Transport services	3,59
Engineering	3,37

Source: [29]

It is possible to see that the most affected industries are the paper, mining, and chemical industries.
Due to the global situation, firms found themselves in a crisis and had to take rehabilitative measures.

One goal of this paper is to theoretically define the basic concepts related to a firm's crisis and turnaround strategy. Another goal is to present the basic results of empirical research dealing with measures to overcome the crisis.

2 Problem Formulation

2.1 Crisis

A crisis can be defined as a low-probability, high-impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolution, as well as by the belief that decisions must be made swiftly.[16]

A crisis has several important characteristics. A crisis is a low-probability event. This characteristic makes planning for a crisis even more troublesome. Events that are not perceived as imminent are hard to plan for, and it is also often difficult for management to find the motivation to plan for such an event. A crisis can have a high-damage impact, and it should be remembered that a crisis can devastate an organization or drive it into the ground. The reference to ambiguity means that the causes and effects of the crisis might be unknown. Causes are often attributed to some type of negligence. A crisis can have multiple interrelated factors that can lead to a trigger event that initiates the crisis. The term ambiguity implies that the means of resolving the crisis are often debatable. In addition, managing a crisis may require swift decision making. The failure to act decisively during the acute stage of a crisis can often intensify the ordeal. [6]

The causes of a crisis can be economic, informational, physical, human resources related, reputational, and due to psychopathic acts or natural disasters. [15]

Economic causes include labor strikes, labor unrest, labor shortages, fluctuations or a major decline in stock prices, a market crash or a major decline in earnings. Informational causes include loss of proprietary and confidential information, false information, tampering with computer records and loss of key computer information with regard to customers, suppliers, etc. Physical causes are covered by loss of key equipment, plants and material supplies, breakdowns of key equipment and plants, etc., loss of key facilities, or major plant disruptions. A human resource crisis means loss of key executives, loss of key personnel, a rise in absenteeism, a rise in vandalism and accidents, and workplace violence. A reputational crisis is caused by slander, gossip, sick jokes, rumors, damage to a corporate reputation, and tampering with corporate logos. Psychopathic acts include product tampering, kidnapping, hostage taking, terrorism and workplace violence. Natural disasters include earthquakes, fires, floods, explosions, typhoons, hurricanes, etc.

A comparison of crisis categories for 1990 – 2010, according to the Institute for Crisis Management, is given in Table 4.

Table 4: The crisis categories (% of total crises)

Category	1990	2007	2009	2010
Facility Damage	5,5	7,0	7,0	11,0
Casualty Accidents	4,8	7,0	11,0	10,0
Environmental	7,8	2,0	2,0	3,0
Class Action Lawsuits	2,2	9,0	7,0	7,0
Consumer Activism	2,8	4,0	9,0	5,0
Defects & Recalls	5,4	4,0	8,0	6,0
Discrimination	3,3	3,0	3,0	3,0
Executive Dismissal	1,3	1,0	1,0	1,0
Financial Damages	4,2	4,0	5,0	6,0
Hostile Takeover	2,6	-	-	-
Labor Disputes	10,3	9,0	8,0	8,0
Mismanagement	24,1	11,0	16,0	8,0
Sexual Harassment	0,4	1,0	1,0	2,0
Whistle Blowers	1,1	1,0	1,0	2,0
White Collar Crime	20,4	19,0	18,0	20,0
Workplace Violence	3,8	15,0	4,0	9,0

Source: [1]

The most frequent crisis type is white collar crime. This type accounts for 20 % of the crises for every monitored year. The next most important types of crisis are facility damage and casualty accidents. Each of these categories amounts to about 10 %. It is very interesting to look at the decreasing importance of mismanagement. This type accounted for 24., 1 % in 1990 and only 8 % in 2010.

The basic symptoms of a crisis in a company are a lack of discipline and laxity of financial management of the firm, repayment of bank loan, cessation of payments of social security and health insurance, extension of maturity factors, lack of materials for production, loss in production, the purchase of old technology, expensive production, lack of available funds, and the departure of key employees. Outside the company the main symptoms are fluctuating markets, increasing competition, a decreasing customer base, dependence on a few business customers, fluctuations in commodity prices, and negative developments in exchange rates. [20]

Bankruptcy models are a widespread tool for evaluating financial health and predicting a coming crisis. [5], [12].

Other authors have proposed similar causes which can lead to a crisis in a company. One basic problem related to failure of a company is unqualified management. Capable management in terms of education and skills is essential for the success of the company. Another cause could be that the company is slow to respond to changes. This situation occurs when the leadership gazes into the past. Management then ceases to track trends and gets into trouble. Another problem could be inadequate information systems, which are mostly lacking accurate and relevant information for solving problems in the company. Very often the cause of the crisis is uncontrolled expansion. A business does not have enough resources to finance its rapid growth. This cause then often leads to over-indebtedness. Another common mistake occurs when companies venture into very extensive project. These projects become a heavy load for them. To address the crisis, the company is required to perform a detailed analysis and diagnose the shortcomings of the business. Firms need to set goals and priorities which reflect the resources of the company. Consequently, companies must take the necessary measures at all levels of the business [17].

To overcome a crisis, it is necessary to formulate and implement a turnaround strategy.

It is necessary to reach an agreement between owners, management and other stakeholders. It is also necessary to analyze the situation and identify the main causes of the crisis. Management must prepare a crisis scenario and formulate a restoration program. Action must lead to the avoidance of the influence of the causes of the crisis. It is important to communicate a recovery program outside the organization. Remedial measures must be implemented quickly. A crucial question is whether the existing management or new management will implement the remedial action. A crisis manager must be decisive and able to take risks. [6, 11, 26]

Managers make mistakes in solving problems when they consider everything to be either predictable or certain, or else consider it all to be unpredictable. To increase the likelihood of finding successful strategies, one should emphasize the need to identify active trends in the sector. To solve simple problems it is possible to use simple predictions and analysis. When solving complex and difficult problems it is preferable to rely mainly on instinct and intuition. [6]

Managers need reliable information in a time of crisis. The instruments used for solving complex problems include strategic analysis, competitive engineering and other tools. [2, 18]

Managers have to categorize each risk in each category and adopt rules for their resolution. [11]

The basic elements for turnaround strategies include stabilizing the crisis, changing management, gaining stakeholder support, clarifying the target markets, re-focusing, financial restructuring and prioritizing critical improvement areas.

It is very important to concentrate on increasing revenue and reducing costs. To increase revenue, firms should ensure a marketing mix tailored to key market segments, review their pricing strategy to maximize revenue, focus organizational activities on the needs of target market sector customers, exploit additional opportunities for revenue creation related to the target market, and invest funds from the reduction of costs in new growth areas. When reducing costs it is very important to reduce labor costs as well as the costs of senior management, focus on productivity improvement, reduce marketing costs not focused on the target market, tighten financial controls and controls on cash expenses, establish competitive bidding for suppliers, reduce inventory and eliminate non-profitable products. [10]

The goal of turnaround efforts intended to increase revenue is to generate increases in sales volume. There are a number of revenue-building options: price cuts, increased promotion, a bigger sales force, and additional customer service. Attempts to increase sales revenue are necessary when there is little or no room in the operating budget to cut back on expenses.

Cost-reducing turnaround strategies work best when an ailing firm`s cost structure is flexible enough to permit radical surgery, when operating inefficiencies are identifiable and readily correctable, and when the firm is relatively close to the break-even point. [27]

It is very important for the firm to prepare a concrete turnaround plan. This plan not only defines remedial actions, it also provides a means to monitor and control turnaround activity. The turnaround plan establishes enough creditor confidence to buy the turnaround consultant time to raise additional capital, and turn underutilized assets into cash. One other important issue is to negotiate with lenders. To continue to do business with the company, lenders need to be satisfied that there is a workable long-term solution. Dealing with trade creditors is a very important step. Managers should prioritize trade creditors according to their importance to the turnaround and communicate with them effectively.

Another important step is workforce reduction. [26]

2.2 Risk

Risk can be classified from different perspectives. Systemic risk is caused by common factors and relates to all economic units. The source of systemic risk is fiscal and budgetary policy and overall changes in the market. This type of risk cannot be reduced through diversification. Specific risk is unique to a particular company. Typical sources of specific risk include a new competitor on the market and the loss of important personnel.

Business risk has both a positive and negative side. The net exposure has a negative side. There is a risk of adverse situations. Technological risk is associated with the application of the results of scientific and technological development, and leads to the failure of new product and technology development, mismanagement, etc. The production process of technological risk may result from the lack of different factors of production. Other causes include deficiencies on the part of suppliers. Environmental risks may include the cost of repairing damage to natural resources, costs associated with taking steps to comply with legislative requirements concerning the environment, etc.

Political risks include strikes, race riots and terrorist actions. These risks are a source of political instability. These include risks associated with doing business abroad, especially in developing countries. Risks associated with the human factor are determined from the level of experience of all stakeholders. These risks include loss of key employees, etc. Risks of financial fraud are inherent in the structure and financing of the firm’s ability to meet its obligations. Legislative risks are influenced by the economic and legislative policies of the government. An important part of these risks is the protection of intellectual property [9].

It is necessary to pay attention to risk management in not only industrial but also agricultural enterprises [22, 23].

The success of a business may be affected by changes in demand, leading to a decrease in sales, sales prices of manufactured products and input prices, and foreign exchange rates and interest rates, and also by changes in techniques and technology, political and economic changes, and changes in the international environment. Firms must identify risk factors and determine their significance. In this section, firms need to identify factors that could develop in an unfavorable direction. It is necessary to establish the significance of individual risk factors. This step will reduce the number of risk factors to a small number of the most important factors. Management must pay special attention to these factors.

The next step is to determine the risks of business activities. This stage is very difficult. Firms can use various tools to support a decision-making venture, such as probabilistic trees, a decision matrix, and Monte Carlo simulation. Businesses must determine the probability distribution of the economic criteria of the business. Firms must also implement measures to reduce risk. Firms can reduce risk by applying the appropriate procedures and measures. Companies can reduce the probability that risky situations will occur which have adverse effects on business results, and can also reduce the impact of those adverse consequences. Companies can also flexibly manage risk. This is the final component of risk management. The goal is to systematically monitor the important factors that can affect a company's prosperity. Another objective of this phase is to identify high-risk situations that require the implementation of certain corrective measures.

Reducing business risk is mostly associated with incurring costs. If the business risk is large, one can expect a higher profit potential. Usually a firm cannot reduce risk altogether. Business activities will always be associated with a certain degree of risk. Risk reduction measures can sometimes cause additional risks. In reducing risk, companies typically do not use only one method, but rather use different ways of combining the companies [28].

In current economic conditions, firms must take into account risks arising from globalization. There is no single model for future development with a clear framework for determining future behavior. It is possible to assume certain developments with positive consequences and risks. Globalization will influence the development of society, and this development will be accompanied by unexpected changes. Globalization affects the distribution of wealth among countries in the global economy. This will have a negative impact on the economies of the poorest countries. Rising unemployment poses a threat. Increasing competitiveness will result in liquidation of inefficient operations. It will widen the gap between the loss of jobs and the possibilities for their creation. The growth rate also affects the outflow of capital from countries with higher labor costs to countries with cheaper labor. Increasing social inequality causes tension in society and therefore social unrest will be a threat [8].

For the decision-making process, it is suitable to quantify risk. The aim of quantification is to estimate the frequency and severity of losses and find priority risks according to their values. It is possible to distinguish absolute quantification from relative quantification. Absolute quantification expresses the risk of probable loss value expressed in monetary units. Relative risk expresses the relative quantification value relative to the chosen base. In risk quantification it is possible to use analytical and empirical estimates. Analytical estimates are based mostly on modeling of the investigated phenomena. Empirical estimates are based on experience.

Dangers in decision-making are mainly the result of inaccurate award decision task, lack of information, misinformation and misinterpretation of information, and unstable decision-makers and indecision about the content and objectives of the project. When solving a particular problem, analysts must constantly refine the available information. Another danger in the decision-making process is time. When decisions are being made, there are usually requirements for a rapid solution. Shortening the whole process can mean a reduction in the information obtained and processed [25].

For the process of creating and implementing a strategy it is typical to have knowledge of how to work under risk and uncertainty. Some authors deal with the issue of how to create a good strategy in a very uncertain business environment. It is wrong to wait for the stabilization of initial conditions under which the strategy was formulated [21, 7].

It is also a wrong situation when managers consider uncertainty to be strictly bipolar – everything is either certain or predictable, or else all factors are absolutely unpredictable.

Managers with risk aversion consider the environment to be uncertain and trust their intuition. In this situation it is necessary to identify the main trends in the marketplace. It is also necessary to identify all the relevant factors that are currently unknown, for example the elasticity of demand, technological options, etc. The element of uncertainty that cannot be removed through analysis is called the residual uncertainty. Residual uncertainty has four levels.

The first level is "sufficiently bright future" – managers can make simple predictions that are sufficient for strategy creation. The second level is "changing, alternative, fluctuating future" – the future can be described by several possible developments. Analysis cannot determine which option occurs, but can determine the probability of each variant. The third level is "range of the future" – this level is determined by the possible margin interval for expected future developments. This margin is defined as a limited number of key variables. The fourth level of "genuine uncertainty" – at this level, it is absolutely impossible to predict the future. At the third level, it was at least possible to determine the range within which future development would have to move. Firms cannot even identify the variables that will affect the future.

It can be said that at least half of all strategic problems fall into levels 2 and 3. Most of the remaining problems are in level 1.

For solving problems of the first level one could recommend the use of standard tools such as market research, competition analysis, etc. The problems are more complex in the second-level and managers must create a possible scenario. It is not enough to estimate possible future states; it is necessary to focus on the expected path to achieving these conditions. Troubleshooting the third level is similar to the previous one. It must be remembered that only a limited number of future scenarios were proposed. In the fourth level, managers must rely mainly on their instinct and intuition rather than on formalized methods [7].

To apply the above approach, firms must respect the principles of exact synthesis and intuitive thinking. Strategic management should be based on a combination of exact and intuitive methods. Exact methods place higher demands on the precise formulation and quantification of objectives, and objectify the decision. Intuition can bring new, as yet unknown elements [21].

2.3 Crisis solving

A company must first resolve potential sources of crisis. These sources can be located both inside and outside of the company. The firm must determine the likelihood of each scenario. This phase is quite difficult, because the company does not have sufficient information to determine these probabilities. In addition, the company tested the potential extent of damage that could be caused by a depression. Based on this assessment, firms will create an overview of the risk and the strength of each risk. Firms must prioritize individual risks. In the next step, the company must formulate and implement measures to prevent risks [30].

The crisis scenario must be brief, clear, and with good explanatory power. A crisis plan should include a formulation of the crisis, crisis team composition, range of extraordinary powers and emergency responsibilities, general and specific procedures in a crisis situation, crisis communication principles, and principles of preparation for a crisis [30].

When dealing with corporate crises, it is especially necessary to avoid errors in business process management.

Firms do not purposefully and systematically identify processes and evaluate their risk. Individual segments of management are not asses and manage as a whole and in context. Insufficient attention is given to the mutual synergies between individual risks. Requirements of internal customers and owners are not adequately enforced. Firms do not pay sufficient attention to identifying the root causes of risk and failure. The performance of the human factor is not adequately controlled. Firms have a tendency to favor the implementation of main processes at the expense of source processes. Firms place insufficient emphasis on a proactive approach. Firms have an inadequate corporate culture, and senior management lacks support plans and processes of change in areas such as human resources [14].

The long-term future of a company can be arranged in several phases. The firm must determine the available production capabilities and special management skills. The company must also set targets for the use of available capacity. Other objectives must be established within existing capacity management, innovation, etc., and current trends must be predicted into the future to quantify the difference between the best possible available options [17].

2.4 Political risks

The stability of a country and political stability is also important for risk management. This stability is due to the ability of political leaders to implement their policies in times of crisis, and the ability to avoid the emergence of a crisis. A country which meets both requirements will be stable. Countries which do not meet any of the above requirements are very vulnerable. To evaluate this type of risk, firms must continuously analyze the activity. It is necessary to monitor information from official sources. It is also necessary to obtain private information. To obtain a real estimate, it is necessary to evaluate information objectively.

An evaluation of the analysis depends on the field in which a company operates, as well as its strategy and risk tolerance. Companies operating in the energy sector are more tolerant to risk. These companies rely on calming techniques to cope with crisis situations. Firms engaged in light industry and retail are more cautious.

To mitigate risk it is possible to use certain techniques and tools. An example is restrictions on research in countries with weak protection of intellectual property. Companies can also take advantage of insurance against political risks [3].

Risk management is also an important tool when implementing innovative projects [4].

One method of risk management is vulnerability analysis. The essence of this method is to identify factors that could seriously threaten the enterprise. The most common factors include resource and enterprise capabilities, production equipment, technology, costs, special experience, company image, legal protection, goodwill, product safety, etc. Management first identifies the important factor. Furthermore, these factors are reflected in the potential risks and then define the consequences of these risks. In the next step, the probability that the threat will be fulfilled is determined. Serious threats often have little chance of emerging. In the final stage, measures are drawn up to solve the problem. If the company cannot manage risk, one can prepare for a reaction against the fulfillment of this threat. Vulnerability analysis helps to identify the pillars on which the existence of a company depends. It also helps identify factors that represent a threat to the degree of their influence. Finally, the overall ability of the company to be competitive in its field will be evaluated [19].

3 Problem Solution

The selected results of the empirical survey are presented in this part [13]. The presented part is aimed at measures for overcoming crises.

3.1 Design of the questionnaire

One part of the questionnaire contained identifying characteristics: headquarters of the firms, sales, information about owners, number of employees, business area. The questions were aimed at managerial, production and financing measures for overcoming crises. Answers were offered for each question. 71 fully completed questionnaires were included in the processing.

3.2 Financial measures

One of the questions examined the use of financial measures. The formulation of the question in the questionnaire was: "Which financial measures implemented between 2008 and 2010 were most importance in overcoming the financial crisis?" (Multiple choice).

The answers offered to the firms were:

a) Our measures did not help our firm to overcome the financial crisis. Our measures were not strong enough.

b) We did not implement any measures. It was not necessary.

c) Restructuring of debt after an agreement with creditors.

d) Increase in equity.

e) Strengthening (or at least preservation) of cash flow by changing terms of payment.

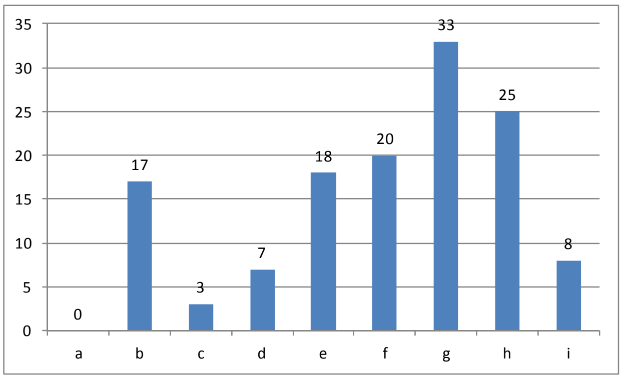
f) Strengthening (or at least preservation) of cash flow by changing monitoring of the payment system.

g) Reassessing investments, and either decreasing or postponing them.

h) Decreasing personnel costs – not by laying off employees.

i) Other – please give samples.

The results are given in Fig. 1.



Source: survey carried out by the Department of Business Economics [13]

Fig. 1 Financial measures

The most often used financial measure was reassessment of investments, and their decrease or postponement (33). Other more frequently used measures included decreasing personnel costs (25), and strengthening cash flow by changing monitoring of the payment system (20) and changing the terms of payment (18). Quite often firms did not implement any measures (17).

3.3 Ratio of equity to debt

Another question examined the ratio of equity to debt. The formulation of the question in the questionnaire was: "The ratio of equity to debt had the following development between 2008 and 2010:" (Multiple choice).

The answers offered to the firms were:

a) The ratio of equity to debt did not change. There was no reason for the change.

b) The ratio of equity to debt did not change. We tried to strengthen equity. We did not achieve a change in this ratio.

c) The ratio of equity to debt did not change. We wanted to increase debt. We failed to do this.

d) The owners increased equity.

e) We increased the ratio of equity through the income of the new owners.

f) We increased the ratio of equity through a merger or through the income of the new owners.

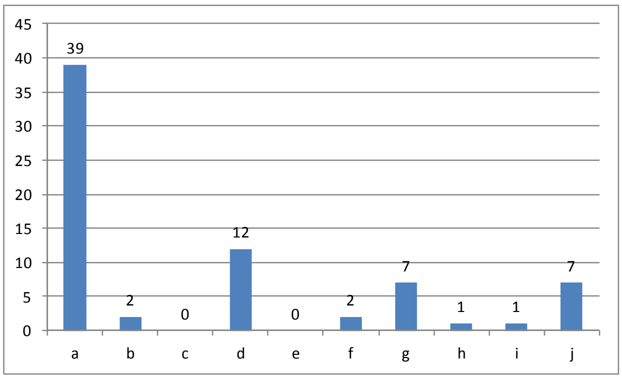
g) We increased the ratio of credit.

h) We increased the ratio of debt through the emission of bonds.

i) We increased the ratio of debt – the income of the new owners enabled us to receive new credit.

j) Others – please give us samples.

The results are given in Fig. 2.



Source: survey carried out by the Department of Business Economics [13]

Fig. 2 Financial measures

The results of the survey indicate that the vast majority of firms (39) did not change their ratio of equity to debt. The second most frequently used measure was an increase of equity by owners (12).

3.4 Managerial measures implemented

Another question examined the ratio of equity to debt. The formulation of the question in the questionnaire was: "Which measures implemented between 2008 and 2010 (in the area of management) were most beneficial for managing the crisis?" (Multiple choice). The answers offered to the firms were:

a) A change in the organizational structure of the firm.

b) A change in the management structure of the firm – reorganization or exchange on the part of managers.

c) Outsourcing of activities.

d) Changes in the accounting practices of the firm, better monitoring of internal cash flows and better monitoring of costs incurred.

e) Merger with or acquisition by another firm.

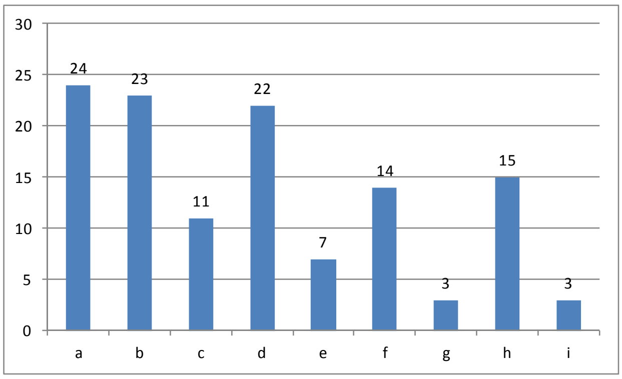
f) A change in risk management.

g) Another – please give us samples.

h) We did not implement any measures – it was not necessary.

i) We did not implement any measures – we did not agree on such measures in the management of our firm.

The results are given in Fig. 3.



Source: survey carried out by the Department of Business Economics[13]

Fig. 3 Implemented measures

The most often used managerial measures were a change in the organizational structure of the firm (24), reorganization or exchange on the part of managers (23) and changes in the accounting practices of the firm (22). Quite often, firms did not implement any measures (15).

4 Conclusion

The global economic crisis has significantly affected firms in the Czech Republic. The statistics on gross domestic product from the Czech Statistical Office document this impact. The basic characteristics of the crisis in a company are low-probability, high-impact damage, and ambiguity.

According to the Institute for Crisis, the main crisis categories are white collar crime, facility damage and casualty accidents. On the other hand, executive dismissal, sexual harassment and whistle blowing are not common causes of crisis.

Two basic ways of overcoming a crisis are to increase revenue and to reduce costs. It is also very important to formulate and implement a turnaround plan.

According to an empirical survey carried out in the Czech Republic, the managerial measures most often implemented by firms for overcoming a crisis are organizational changes, exchange on the part of managers, and changes in accounting practices.

The most often implemented financial measures are a reassessment of investments, decrease of personnel costs and strengthening of cash flow. It is possible to state that most of the firms did not change their ratio of equity to debt.

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