Risk management at Slovak enterprises: an empirical study

Abstract. Risk management is a process aimed at assessing and managing risks with the goal to minimise losses and maximise benefits. The analysis and evaluation of the risks are decisive in risk assessment according to the risk management framework. The purpose of this article is to assess the current state of implementing the process of analysing and assessing risks related to small and medium-sized enterprises (SMEs) and to define the main problems outlined in the questionnaire research carried out in 2017 in which 485 SMEs working in Slovakia took part. The questionnaire contained questions about the implementation of risk analysis and risk assessment in SMEs. To conduct the research, the authors used basic methods of statistical assessment, namely simple classification of statistics and calculations of relative accountability. Based on the results of the given research, it can be concluded that the SMEs pay the least attention to the analysis and evaluation of risks. In our opinion, this is due to the failure to apply exact methods which seem to be complicated in terms their practical use.

Keywords: Risk; Risk Management; Analysis; Evaluation; Enterprise; Small and Medium-sized Enterprises

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The essence of risk management is to reveal and to reduce risks purposefully. The risk management process consists of several basic steps (phases). The risk management process is described in the professional literature in various ways. Š. Zapletalová (2012) divides them into three phases (identification of risks, analysis and assessment of risks, treatment of risks). Some publications (Kafka 2009; Mikulová 2014) say the risk management process contains four phases and according to ISO STN 31 000 Risk Management and the Australian standard 4360:2004 it consists of five basic steps. These differences consist in a different classification of the activities into individual phases and steps. The content and essence of the individual analyses, their accessibility, their simultaneous solution and the same in all of the aforementioned sources. This article is based on classifying the risk management process into two basic phases, i.e. the assessment and management of the risks. In the framework of risk assessment, we analyse internal links and their overall importance. Subsequently, the identification, analysis and evaluation of risks are carried out. The phase of risk management consists of reducing risks, informing the concerned and competent persons about residual risks and monitoring (checking) risks.

2. Brief Literature Review

Risk assessment in the enterprise

The activities carried out in the framework of risk assessment are aimed at understanding the relations and links between the elements of the system being assessed, which enables a simpler identification of possible threats. A subsequent risk analysis investigates the essential properties and factors of the risk with an emphasis on the likelihood of developing a negative event and consequences it can cause. Risk evaluation is the last step in the framework of assessing risks. The output of the risk evaluation is a list of acceptable and unacceptable risks and the ability to realise them in the management phase. We can say that data with various information values is the input, and the selection of the unacceptable risks we have work primarily with is the desired output. Based on the importance of risks, decisions about risk management are subsequently taken. Some professional sources do not differentiate the analysis and evaluation of risks during the risk assessment phase, others consider them to be independent activities. We recommend distinguishing the analysis and evaluation from both the terminological and content point of view.

According to the STN ISO 31 000, the analysis contains "considerations about the causes and sources of the risk". The identification of the factors resulting from the consequences of a detected risk and the likelihood of its development (the causes and sources of the risk); their evaluation and the subsequent definition of the risk extent is carried out in the framework of risk analysis. Risk evaluation is aimed at comparing the size of the analysed risks themselves, as well as comparing them with the stated level of unacceptable risks. In some cases, the assessed risks can be analysed again. Risk evaluation determines the risks we have to deal with or manage. The output of the evaluation is the creation of the risk list and their classification into the acceptable and unacceptable ones. The realisation of analysing and managing the risks is identically understood in the Australian standard 4360:2004. According to COSO ERM (Curtis, 2012), the structure of risk management was created regarding to the revealed and the likelihood of its development (the causes and sources of the risk); their evaluation and the subsequent definition of the risk extent is carried out in the framework of risk analysis. In some cases, the assessed risks can be analysed again. Risk evaluation determines the risks we have to deal with or manage. The output of the evaluation is the creation of the risk list and their classification into the acceptable and unacceptable ones. The realisation of analysing and managing the risks is identically understood in the Australian standard 4360:2004. According to COSO ERM (Curtis, 2012), the structure of risk management was created regarding to the revealed and the likelihood of its development (the causes and sources of the risk); their evaluation and the subsequent definition of the risk extent is carried out in the framework of risk analysis. In some cases, the assessed risks can be analysed again. Risk evaluation determines the risks we have to deal with or manage. The output of the evaluation is the creation of the risk list and their classification into the acceptable and unacceptable ones. The realisation of analysing and managing the risks is identically understood in the Australian standard 4360:2004.
attention to? The following answers were available: identifying the risks; analysing the risks (defining the likelihood and consequence); assessing the risks (stating the seriousness of the risks); calculating measures to reduce the risks; all activities are paid the same attention; none of the above activities

Based on the fact that companies pay the lowest attention to the analysis and evaluation of risks, this article focuses on these two risk management activities. Here, the following conclusion can be derived - the analysis and evaluation of risks are complicated activities in terms of time and expertise. Companies are satisfied with a simplified risk assessment only, and they pay attention to what they think to be «more important» activities. Therefore, the article investigates how companies define the size of different risks. The determined size of risks is an assumption to define their importance.

Micro-companies accounted for 97.1%, small enterprises comprised 2.3% and medium-sized enterprises represented 0.5% of the companies in Slovakia in 2016 (SBA, 2017). According to the questionnaire survey, this representation of Slovak companies shows the basic statistical file. 65% of the micro-companies, 24% of the small enterprises and 12% of the medium-sized enterprises took part in the survey. The percentage of the companies by their size in the representation sample of the questionnaire is adequate to the percentage of the companies by their size in the representation sample of the statistical file. Therefore, we can generalise detected conclusions regarding the whole entrepreneurial environment.

5. Results
Assessing and managing risks in SMEs in Slovakia

Figure 1 depicts the relative quantity of the companies (regardless of their size). It shows which of the risk management activities is paid the greatest attention to. The results show that 123 of the addressed companies (25%) do not deal with the risk management. We can say that the micro-companies and small enterprises especially do not deal with the risk management. They perceive risk management as another administrative burden and do not see any reason to realise it. In spite of this fact, the survey shows that 75% of the addressed companies deal with risk management and 114 of the enterprises (24%) cover all risk management activities. We can say these enterprises realise risk management in a continual way. However, there is a majority of companies that prefer only some of these activities. The companies predominantly focus on identifying the risks and creating measures for their reduction. The least attention is paid to risk evaluation except for the small enterprises that deal with risk monitoring at the lowest level. Further presentations of the research results do not take into account the companies’ size.

The values of risks are not defined by 48% of the addressed companies (see the Figure 2). When stating the size of the risk, we implement the qualitative expression in the form of a verbal description (e.g. small, medium or big risks). 38% of the companies define the risk size in this way. Only a small part of the addressed companies state the size of the risks either quantitatively through expressing the risk in a mathematical or statistical way or semi-quantitatively, or verbally by attaching the point value. This determination of risks is also used by 7% of the enterprises.

The comparison of the enterprises according to the classification to the preferred activities of the risk management and risk assessment methods shows that the qualitative, quantitative and semi-quantitative risk evaluation is used by the companies approximately at the same level. We cannot say whether 45% of the companies that define the risk value either qualitatively or semi-quantitatively carry out this analysis by using the method of risk evaluation or they only rely on intuitive estimation. There is another challenge for an investigation. The companies utilising the mathematical and statistical expression of risks are expected to use these methods and techniques.

The next question (after the question about the method of stating the risk value) concerns the factors which the companies take into account when determining the risk value as follows. It has been detected that 34% of the companies assess the likelihood and consequence of developing a negative event when determining the risk size; 17% of the enterprises take into account only the consequence and 8% of the companies take into consideration only the likelihood of developing a negative event during the risk evaluation process (see Figure 3). It is worth mentioning that 25% of the companies take into account none of the two basic factors when determining the risk size (neither the likelihood nor the consequences). If we compare it with the 34% of the companies that take into consideration the likelihood as well as the consequences when assessing the risks, 25% of the enterprises is a significant amount. There can be two explanations for such a result.

The first reason can be a different understanding of risks by the companies. In spite of the fact that the professional literature defines a risk as a likelihood of developing a negative event and its consequence, there are also risk definitions that consider it either a likelihood of developing an undesirable event or the expected loss (i.e. the consequences). For example, T. Aven (2011) distinguishes nine basic categories of the risk definition which differ just in the framework of defining the likelihood and the consequences as part of any risk.

The second reason can be measures created to reduce risks. The measures relating to risk reduction are aimed at limiting the development of negative events or at reducing their consequences. Therefore, it is possible to assume that according to the preference of measures, the companies take into consideration the factor the size of which they want to reduce. The results show that twice as many enterprises prefer the evaluation of the consequences compared with the evalu-
The answer to the question why the companies aim more at assessing the consequences than at determining the development of a negative event, and namely when they take into account only the likelihood or only the consequences, cannot be clearly defined. The reasons why the companies focus more on the risk than on the consequences as a likelihood of developing a negative event are as follows:

- The understanding of the entrepreneurial risk as a possibility of developing not only negative but also positive consequences. The entrepreneurial risk is often labelled as a speculative risk because it is connected with the successfulness of the selected activity and develops in the framework of the entrepreneurial decision-making. The companies assess and compare the possibilities of negative consequences (losses) with the positive results (profit) when taking the risk.
- The size of a negative consequence in the case of a particular entrepreneurial subject depends especially on the available financial means invested to address activities which threaten the event. It is a more complicated thing to state the size of likelihood for developing a negative event. In contrast to defining the consequences where the entrepreneurial subject possesses the necessary data (keeping records of accounting and necessary documentation about the value of the assets), the enterprise does not have the necessary information at its disposal when it attempts to state the likelihood of some events.
- The factors that the enterprises take into consideration for stating the risk value (the likelihood and the consequences) are also connected with how they are stated (qualitatively, qualitatively or semi-quantitatively). Figure 4 shows the classification of the enterprises according to the method of stating the risk and the risk factor they prefer for their evaluations. The comparison excludes those companies that do not use any method for stating the risk value.

The usage of the quantitative methods depends on a sufficient amount of information due to which the enterprise is able to assess both the likelihood and the consequences. This was confirmed by a research according to which 78% of companies utilising the quantitative methods state the size of the likelihood and 6% detect only the consequences (marked green in Figure 4). In the framework of the qualitative and semi-quantitative risk evaluation, there are three times more companies that state the risk value only as a consequence of a negative event compared with stating the risk value only as a quantity of likelihood of developing a negative event. When we use the qualitative methods, the ratio is 31:11, and in the case of the semi-quantitative methods it is 22:8 in favour of the consequence versus likelihood. The biggest disproportion can be seen in the qualitative risk evaluation (marked blue in Figure 4). There are only by 5% fewer companies (47%) that assess risks by the likelihood and the consequence of a negative event than those that take into account either the likelihood or the consequences (42%).

There is an interesting observation that when we divide the companies according to the semi-quantitative method of risk evaluation (marked orange in Figure 4) there is a zero representation of the companies that do not state the value of risks when stating the risk value. 6% of the companies do not state the risk value when evaluating the risks qualitatively and, in the case of the qualitative evaluation, these companies amount to 11%. A logical explanation can be the fact that these companies consider risk evaluation only as a definition of importance (as mentioned in the first investigated question in this article) without determining the value of risks. In our opinion, they follow the development trend of the investigated enterprise data for the quantitative evaluation. Based on inclination to either grow or decrease, they determine the importance of risks without any necessity to state their value. In the case of the qualitative evaluation, it can be only an analytical analysis of risks, without stating their value, however, with determining their importance for the enterprise.

At the end of this part of the article, we would like to show negative answers of the companies to the questions (Figure 5). We purposefully omitted them in the previous context. 25% of the addressed companies deal with the risk management (see Figure 5, above). Based on this percentage, we expected that the representation of the companies utilising no methods of stating the risk value would be a little more than 25%. We derived such an assumption based on the fact that the companies deal only with some activities and can neglect the others. Out of the introduced 48% companies, 25% deal with risk management, and the remaining 13% pay attention only to some activities associated with risk management. A simple classification shows that the companies that say they pay attention to all risk management activities or take appropriate measures have the highest representation here. The representation of the enterprises that answered negatively to the question regarding to the method of stating the risk value (Figure 5, middle) and taking into account the factors for risk evaluation (Figure 5, below) is approximately the same. In spite of this, there is an 8% representation of the companies that do not utilise the qualitative, semi-quantitative or quantitative methods of risk evaluation; however they take into consideration its factors when determining the size of the risk. We can say that if we do not apply the qualitative,
6. Conclusions

The research results observed in several investigations (Klučka & Grünbichler, 2016; Beasley et al., 2016) and studies (Ahmed & Manab, 2016; Cho, 2017; Hosseini et al., 2016) show the increased interest of SMEs in risk management. However, it is still uncertain whether risk management is implemented at different enterprises or it is only a marketing move.

We have found out that 75% of the addressed companies deal with the risk management. However, only 24% of the enterprises cover all risk management activities. The enterprises predominantly focus on identifying the risks and taking measures in order to reduce them. Even if there is general awareness of the danger itself, it is not appropriate to assess and manage risks only on the basis of intuition or rough estimations, or to be limited only to identification of the sources of risks without any analysis or risk evaluation. Ony a small part of the addressed companies (7%) determine the size of risks either quantitatively through expressing the risk in a mathematical or statistical way or semi-quantitatively, or verbally by attaching the point value. Yet, we are not able to say whether 45% of the companies that determine the risk either value qualitatively or semi-qualitatively carry out this analysis by using the method of the risk evaluation or they only rely on their intuition. This is another challenge that should be investigated further. The usage of the quantitative methods depends on a sufficient amount of information due to which the enterprise is able to assess both the likelihood and the consequence. This was confirmed also by a research according to which 78% of the companies applying the quantitative methods state the size of both the likelihood and the consequence; 10% of the enterprises monitor only the likelihood, whereas 6% of the companies detect only the consequences.

In the framework of the qualitative and semi-quantitative risk evaluation, there are three times more companies that state the risk value only as a consequence of a negative event, compared with stating the risk value only as a quantity of likelihood of developing a negative event.

Finally, we have to corroborate the necessity and substantiability of risk management. We consider it important that the application of the relevant methods and techniques when stating the size of different risks be exact, simple and comprehensible in terms of processing procedures and interpretation of the obtained results. Appropriate attention should be paid to stating the level of risk tolerance for the enterprise.

References


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