

Importance of Risk Assessment in Managers' Decision-Making Process

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Abstract—Making decisions is the core of management and a result of conscious activities which is under way in a particular environment and concrete conditions. The managers decide about the goals, procedures and about the methods how to respond to the changes and to the problems which developed. Their decisions affect the effectiveness, quality, economy and the overall successfulness in every organisation. In spite of this fact, they do not pay sufficient attention to the individual steps of the decision-making process. They emphasise more how to cope with the individual methods and techniques of making decisions and forget about the way how to cope with analysing the problem or assessing the individual solution variants. In many cases, the underestimating of the analytical phase can lead to an incorrect assessment of the problem and this can then negatively influence its further solution. Based on our analysis of the theoretical solutions by individual authors who are dealing with this area and the realised research in Slovakia and also abroad we can recognise an insufficient interest of the managers to assess the risks in the decision-making process. The goal of this paper is to assess the risks in the managers' decision-making process relating to the conditions of the environment, to the subject's activity (the manager's personality), to the insufficient assessment of individual variants for solving the problems but also to situations when the arisen problem is not solved. The benefit of this paper is the effort to increase the need of the managers to deal with the risks during the decision-making process. It is important for every manager to assess the risks in his/her decision-making process and to make efforts to take such decisions which reflect the basic conditions, states and development of the environment in the best way and especially for the managers' decisions to contribute to achieving the determined goals of the organisation as effectively as possible.

Keywords—Risk, decision-making, manager, process, analysis, source of risk.

I. INTRODUCTION

IN the conditions of the small and medium enterprises, the orientation on the early identification of the possible risks and the early response to the possible threats is a very hot issue. The small and medium enterprises (SMEDs) are more sensitive to the changes of the external conditions and also to the problems of the internal environment. In general, it is also valid for the SMEDs that the biggest risks result from the character of the market environment, the entrepreneurial environment in the line of business and with the economic and legal conditions in the given country. However, the SMEDs can be also threatened by the personal risks, the risks resulting from the insufficient qualification of the employees, low

motivation and by violating discipline and safety measures as well as other rules and standards. The preparedness of the management, its management skills and experience which are missing in many cases and are replaced by professional knowledge and routine, play a special role.

The goal of this paper is to assess the importance of the risks and failures during the decision-making process in the SMEDs. Part of this paper is also a proposal of measures for removing the assessed risks in the decision-making process based on the long-year experience of the authors who are dealing with this area in their scientific and research activities at the University of Žilina in the Slovak Republic.

II. CURRENT PERCEPTION OF THE RISKS IN COMPANIES

Due to the high pace of the changes in the global entrepreneurial environment more and more companies are aware of the need and importance of the risk management in their enterprises. The global research concerning the implementation of the risk management shows that in spite of certain problems the companies try to implement the risk management into the managing processes [1]. The top managers are usually involved in the monitoring and control of the risks. Afterwards, they link the risk management with strategic planning of the enterprise. On the other hand, only half of the companies believe the risk management system is an important competitive tool of the enterprise. The support for an early identification of the risks in the company is missing; the trainings and consultancy in this area are not sufficiently provided.

In 2015 the US institution ERM INC in collaboration with the US institute CPAs worked out a report of the current situation on the area of implementing the risk management in the companies: the new trends and opportunities. The results of the research in which 1,093 companies from various lines of business, of various types and sizes from all over the world took part are included in this report [2]. The key findings from this research are as follows:

- 59% of the companies think that the size and complicatedness of the risks have substantially changed during recent five years. It is valid for the companies of all sizes and types.
- 68% of the company owners request increasing the extent of inspection and monitoring of the risks through engaging all key company managers.
- Only 23% of the companies say the implementation of the risk management is on a sufficient level.
- 52% of the companies (especially the large ones) have a defined policy of the risk management in the whole

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enterprise.

- Only 27% of the companies give time and create space for discussions about the key risks during regular meetings.
- 27% of the companies have a strategy of the risk management which is part of the company's strategic planning.
- 42% of the companies think that the implementation of the risk management is an important competitive tool for the further progress of the enterprise.
- 60% of the companies do not provide training and consultancy in the area of the risk management.

The companies in the European countries are aware of the fact it is important to make the risk management process more effective. They increasingly implement the integrated risk management approach, i.e. they centralise the risk management to one department and create teams of managers in individual departments whose goal is to monitor and control the risks. The majority of enterprises involve the risk management to their planning and decision-making processes, i.e. they systematically consider the possible risks for making decisions in the areas as the cash-flow management, investments and pricing [3].

Except for monitoring the traditional market and financial risks they concentrate on protecting their reputation and brand and on the reliability of the business partners and institutions that provide financial means. According to the international study Treasury Risk Survey 2013 [4], realised by the Association for Financial Professionals/gtnews in collaboration with the company Zanders Treasury and Finance Solutions the European enterprises consider the most serious risks – see Table I.

TABLE I
PERCENTAGE OF THE COMPANIES PERCEIVING THE GIVEN RISK FOR THEIR COMPANY VERY IMPORTANT AND IMPORTANT [4]

Risk	%
1. Liquidity	74
2. Foreign currency exchange rate	70
3. Loss of reputation	70
4. Credit risk	65
5. Counterparty credit risk	64
6. Internal systems	64
7. Country risk	55
8. Fraud	47
9. Commodity risk	47
10. Risk in business chain	46

The European enterprises and we can assume that the majority of the large Slovak companies pay the biggest attention to managing the risks of the foreign currency exchange rate, of the credits and those which can result from the failures of the counterparties, e.g. insolvency of the business partners. It is interesting that the European enterprises perceive some risk more strongly than e.g. the risk of the loss of reputation, the risk in the internal systems or the risks caused by the failure of the business partners. Although mostly large enterprises took part in this research, the practice shows that also SMEDs perceive the market and financial

risks as the most important ones.

The situation regarding the implementation of the risk management in the Slovak companies is not positive. The approach to the risk management is in many companies (compared with the advanced countries) less systematic and is implemented with certain reserves. The companies are missing an overall framework of the risk management which is sufficiently interconnected and works without any link to the company strategy. We face the problems of the content definition, responsibility for the risks, the missing definitions of criteria, i.e. the risk tolerance, insufficient orientation on identifying the root causes of the risks, etc. [5].

The majority of the companies are aware of the occurrence of the entrepreneurial risk; however, its importance is perceived with a different intensity. The solutions are often limited to an informal risk assessment. In practice in Slovakia it is not common that the risk management is a natural part of the managerial decisions. It is only limited to the financial and investment risks and the risks in the area of production, quality, failure of the human factor, etc. are neglected. The 2009 financial crisis aroused interest in the risk management in the Slovak enterprises and strengthened the positions of the financial managers, however, by far not to an extent as it is usual in the foreign countries [6].

The situation in the SMEDs where are several objective and subjective barriers which prevent the companies to manage the risks effectively is more complicated. There are several causes as follows:

- the management of the SMEDs (subject to exceptions) has a worse access to information necessary for analyses, assessment and risk management,
- the management, mainly of the small enterprises, is on the one hand created by experts of the given area, however, on the other hand frequently by the owners or partners who are often missing economic and management knowledge and experience,
- creating a specialised position for an analyst or specialist in the area of the risk management would inadequately increase the costs and moreover, there is no space for such a position in the simple organisational company structure,
- the business experience of the owners and managers or the current successful development and especially the missing strategic analysis of the environment conditions can significantly suppress the need of implementing the risk management in the company.

In 2013 we realised a statistical research of the SMEDs' entrepreneurial risks in the region of Žilina in the framework of the project FaME/2013/MSPRISK – Entrepreneurial Risks of the SMEDs in the Turbulent Economic Environment [7]. Out of the total number of 164 SMEDs 30% of the entrepreneurs identified the market risk as the most serious one, for 22% it was the financial risk, for 14% the human resources risk, for 14% the legal risk, for 12% the security and safety risk and 8% of the entrepreneurs consider the operation risk to be the least serious one. The figure one shows the percentage of the SMEDs' identified risks [7].

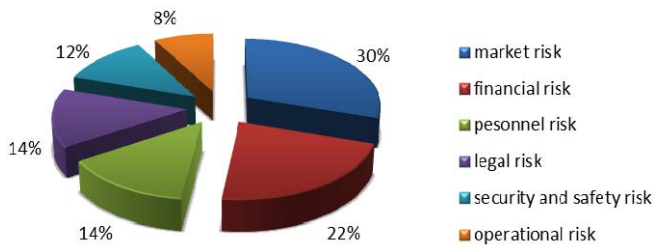


Fig. 1 Percentage of identified risks of the SMEDs in the region of Žilina in 2013 [7]

The personal interviews show that the entrepreneurs consider the insufficient market research, insufficient advertising, incorrect strategy of the selling price, prices of the competitors' products but also the language barriers to be the main sources of the market risk. The main sources of the financial risk were – shortage of own capital, limited financial resources, insolvency, company's indebtedness, etc. The main sources of the human resources risk were – the insufficient level of the employees' qualification, missing practical experience of the managers, negative attitude to work, missing sense for responsibility, bad interpersonal relations at the workplace, etc. They introduced the following main sources of the legal risk – the changes of the laws for entrepreneurs, new laws in the area of environment protection, etc. The main sources of the security and safety risk were – the accidents, failing to keep the provisions of the OHS, the threat of the natural disasters of various types (floods, whirlwinds, fires), robberies, vandalism, etc. The main sources of the operation risks were - the low product quality, failure rate of the machines and equipment, incorrect production procedures, etc.

The SMEDs have not appropriate organisational conditions for the performance of a workplace aimed at analysing and managing the risks. The monitoring and assessment of the key financial indicators is often carried out by external organisations providing the necessary accounting and other services. The owners and managers of these enterprises are mostly experts in the given line of business; however, they are not able to implement the comprehensive principles of the risk management. But in spite of this fact there are opportunities how to avoid underestimating the existing risks and how to implement the risk management principles to the management practice and to the enterprise operations [8].

Except for the market and financial risks, it is very important to orient also on the human resources risks which are perceived as very important by the SMEDs, however, they do not take any measures for their reduction and elimination or even they are not simply carried out. But it is important to realise that some causes and phenomena of the human resources risks are connected closely with the effectiveness of the measures for reducing other entrepreneurial risks. We consider the risks linked with the owners and managers to be the most underestimated sources of the human resources risks in the SMEDs. They are those risks to which the managers (in several investigations) do not draw attention because they concern just them. It is also important to realise that the majority of the shortages and risk sources are closely

connected with the decision-making processes, i.e. with the key management activities. Therefore, the next part will deal just with the risk sources and causes of failures during the decision-making process.

III. RISK IN THE DECISION-MAKING PROCESS OF THE SMEDS

The management processes and especially the decision-making processes in the area of the small and medium entrepreneurship are affected by a whole range of factors which have both an objective and subjective character. The characters of the environment where the SMEDs realise their function belong to the objective factors. While the conditions of the local or regional market the SMEDs operate in are relatively foreseeable, the information for a strategic analysis of a broader market, economic, technological and social environment can be acquired harder. Therefore, the subjective factors which are frequently closely connected with the possible risks of erroneous decisions come to the foreground. There are especially the following facts:

- The decision-making process of the managers in the SMEDs is based on until that time successful and more or less intuitive decisions based more on experience and clear relations with the business partners than on any deeper analyses of the situation,
- Although they sometimes make decisions based on a rational decision-making procedure the managers (or the owners) are missing any larger knowledge and experience resulting from identifying, analysing and assessing the risks of the possible decisions including the knowledge and experience from the implementation of the necessary methods,
- The decision-making process is affected by the decision-maker's personality, i.e. the owners or managers, their qualification, the economic and managerial experience, analytical abilities, the level of their strategic thinking as well as their personal qualities, communication and interpersonal capabilities and several psychological processes (fatigue, stress, influence of an illness, etc.).

These subjective factors create a certain summary comprising the possible causes of errors during making decisions which – in connection with the existence of the aforementioned objective factors – can be perceived as two groups of the risk sources during the decision-making process:

1. The underestimation of the risk analysis in the individual phases of the decision-making process, i.e. we underestimate the implementation of suitable methods of the risk management into the individual phases of the rationally understood decision-making process.
2. The list of the so called cognitive failures which result from the deformed perception of information, sometimes caused by routine erroneous patterns of processing the information. The cognitive failures are often the causes of the incorrect intuitive decision-making.

Based on the aforementioned facts it is possible to say that the risk appears on two levels during the decision-making process:

1. The risk related to the environment conditions – the risk

as an uncertain situation resulting from insufficient or incomplete information about the state of the relevant factors of the environment as a probability of their important properties – in this case we can speak about the situation of a risk.

- The risk related to the subject's activity, its goal (a risk resulting from our purposeful activity) – the risk as a possibility of a result which differs from the determined goal.

The decision-making processes as the key processes of the company management, especially in their rational form, are closely linked with implementing the risk management tools. On the other hand, the individual phases of the decision-making process itself include elements of the risk management. This is depicted in Fig. 2.

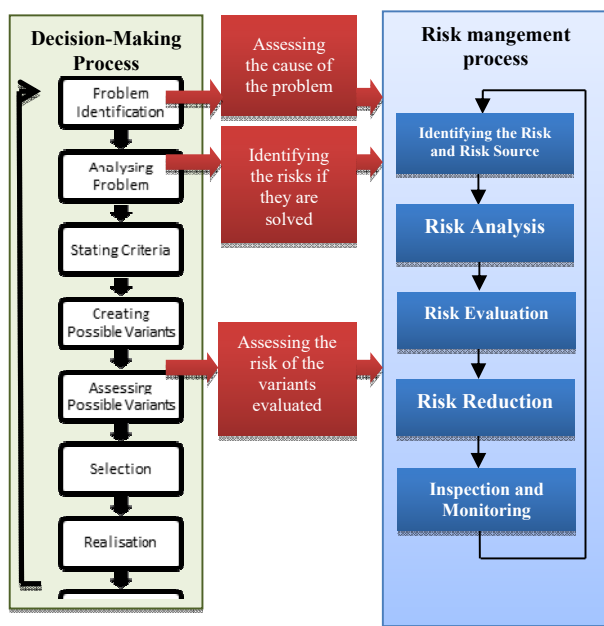


Fig. 2 Risk management elements in the individual phases of the decision-making process

In the phase of identifications and analyses of the problem it is important to recognise the causes of the rise of the problem and to estimate which risks would result from its solution and on the other hand it is necessary to count on the fact that solving the problem can bring new risks. Unfortunately, this phase is not fully respected in practice and concentrates only on formulating the problem. One of the reasons can be that the management is loaded by a number of unambiguous solutions (at the first sight) which do not require any analysis but an immediate and most frequently intuitive solution. The managers have a feeling (and it is necessary to say that a justified one) they recognise what type of a problem it is and therefore they concentrate on the realisation phases of the decision-making process. However, underestimating the analytical phase can mean that the problem is assessed incorrectly and this fact affects its further solution negatively. In this case the team search and knowledge of the causes of the arisen problem can make its real solution more effective,

not to speak about a situation when it prevents the development of another problem. In our opinion it is suitable to utilise the participation approaches and to create a good communication atmosphere especially in the phase of analysing the problem. The management often responds to the situation when the problem is transparent but its cause remains unknown and the problem can emerge in other connections and frequently with other symptoms.

The methods of the risk analysis find their place in the problem analysis understood in this way. They enable assessing the risk rate and to choose a suitable procedure of the further steps in the decision-making process.

The process of determining the criteria for selecting a suitable solution is understood as a routine activity, however, also in this phase the management can make a mistake. In spite of respecting the basic principles – the purposefulness, effectiveness, feasibility and lawfulness, an incorrectly determined criterion can cause a risk decision.

The key phase of the decision-making process is the creation and assessment (or testing) the possible solution variants. The utilisation of the risk management tools helps reveal the possible negative consequences of this solution variant which suits the stated criteria in the best way. In the case of a SMED management it concerns e.g. the selection of the business partners, selection of an advantageous credit, the decision about purchasing a new technology or a new development investment. The implementation of the risk management tools will enable the company to consider if the detected risk is acceptable or if it will be better to find another solution.

The textbooks of management and risk management do not bring much information about the risks of the already chosen decision, however, in spite of this the realisation phase, the phase of implementation, hides a lot of risks. The risk is hidden in wrong communication between the management and the realisers – they need not understand each other and due to this fact an inappropriate implementation can develop. The preparedness of the realisers – their knowledge, experience, their relation to the decision being made – substantially influences the final effect of the decision. It is also important how the implementation is organised – we forget the selection and formulation of an appropriate decision is only the assumption of an effective solution of the problem and only its fast and well coordinated realisation can show if the selected decision was correct.

IV. ERRORS DURING THE DECISION-MAKING PROCESS AND PROPOSALS FOR THEIR REMOVAL

It is obvious that making appropriate decision is affected by several more or less influenceable factors creating the decision-making system [9]. We have already mentioned that the source of the risks in making decisions of a manager or owner of a SMED have both objective and subjective character. The decision-maker personality is of key importance. In spite of the fact that the knowledge, experience and the aforementioned comprehensive preparedness to solve complicated situation in the decision-making processes are the

basic prerequisites, making mistakes cannot be excluded. Some of them result from the shortage of relevant information or from taking unsuitable or incorrect decision-making methods; some of them can be caused by the defective human perception [10], [11], [12].

The errors in the decision-making process and proposals for their removal:

- 1st error – Attaching too big importance to the first information: It is something like “anchoring” the first information, impressions, the first estimations, significant experience from the past in the thinking of the decision-makers. It causes omitting other substantial factors, underestimation of the novelty or specificity of a particular decision-making situation. A less experienced crisis manager can succumb to the influence of “anchoring” of those people he/she cooperates on solving the problem with. The proposals for removing this error consist especially in:
 - a thorough analysis of the problem, assessing the problem from several aspects and broader interconnections, searching for relevant information and opinions,
 - utilising a combination of methods for analysing the problem and searching for solution variants, if the situation allows it.
- 2nd error – the effort to maintain the status quo: It results from the human property – to avoid changes, to maintain things which until now have shown to be effective, to refuse a radical change, the influence of apologising the previous decisions, suppressing the importance of information which does not comply with our conceptions. The new situation is not perceived as a stimulus for a necessary change. In the crisis management, it represents – e.g. the underestimation of the preparation or revision of the crisis plans (anyway, nothing will happen). The effort to prolong the current situation is much stronger than the need to work out new measures. The proposals for removing this error require especially:
 - rejecting the status quo as the only alternative, to consider rationally the advantages and limitations of the possible solutions in relation to the current situation,
 - realising that the individual factors of the current state, i.e. also the sources of the risks and crises develop with time and taking adequate decisions reduces the probability and strength of the possible crises.
- 3rd error – the effort of “framing” the problem to a known scheme complies with the general and quite appropriate tendency to utilise the acquired experience. The problem is that if we place the arisen problem to an incorrect frame, this will create a dangerous precondition of an erroneous decision. The influence of this trap can cause the unwillingness to look for next information (anyway, everything is clear; we know what the matter is). The proposals for removing this error are:
 - to pay attention to the correct identification of the problem and its thorough analysis before the “framing” process,
 - due to the frequent time stress during solving an acute

crisis it is sometimes inevitable to adopt a certain framework, to compare it with an already solved problem but when it is only a little possible, to try looking for other schemes for solving the problem, to compare our perception of the problem with the colleagues’ opinions.

- 4th error - preferring information which confirms our estimations is partially connected with the previous errors: Especially the relatively experienced managers have a tendency to rely on their estimations and prognoses. In the complicated situations this tendency is strengthened by the fact we do not possess enough necessary information and also the time for their thorough analysis. The proposals for removing this error are restricting these influences does not mean that we cast doubt upon the experience and intuitions. We have to realise that if we overestimate them in less common situations it could lead to an erroneous decision. It could also prevent assessing the information before we are able to analyse it, at least partially.

If we succumb to these errors, it can devalue correct procedures how to respond to the given situation in many ways. During a reaction to the possible risks the accompanying phenomenon of the rational measures can be that we rely on the decision-maker’s intuition. However, if we decide about decisions for reducing the influence of the future possible risks (i.e. in situations when we have relatively enough time) it is possible to avoid these traps. The complicated situations of various characters place heavy demands on the subjects that decide. The manager has to have not only professional knowledge, but also the knowledge of the decision-making methods and techniques. He/she has to be prepared to bear the consequences of incorrect decisions. This requires certain experience and psychical and mental competencies [13], [14].

The improvement of the managers’ training in the SMEDs with an emphasis on implementing the selected risk management tools, on the capability to analyse the situation correctly, to make the necessary conclusions for choosing the selection methods to pick the best solution variant is only one side of improving their competencies. Another and also very important area is to increase their psychical and mental abilities to perceive the situation correctly, to analyse the information rationally, to decide wisely and to improve their abilities to implement the adopted decision successfully and to manage their realisation effectively [15], [16].

V. CONCLUSION

This paper concentrates on that aspect of the management competencies of the leading employees of the SMEDs which are linked with errors during making decisions. The incorrect selection of the goals, erroneous assessment of the situation, underestimation of the importance of monitoring the development of the important indicators, an inadequate reaction to the changes of the conditions are the most frequent errors during the decision-making process. Although the causes for incorrect decision can have also a less objective character, e.g. the relevant information is not accessible or

there is a need to decide under the time stress, the majority of erroneous decisions can have a subjective character. We think the unpreparedness of the management and the existence of the causes for making wrong decisions belong to important sources of the entrepreneurial risks in the conditions of the SMEDs. Therefore, in the risk management process of the SMEDs, especially in the phase of identifying the risks, it is necessary to give more weight to the risks resulting from the character of the staff and in the case of the management to their possible erroneous decisions.

ACKNOWLEDGMENT

Publication of this paper was supported by the Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic – VEGA No. 1/0560/16.

REFERENCES

- [1] T. Merna, Faisal F. Al-Thani, *Risk management*, Brno: Computer Press, 2007.
- [2] The American Institute of CPAs (Certified Public Accountants). Accessed on 14/10/2016 <http://www.aicpa.org/catalogs/masterpage/Search.aspx?D=4294956630:4294956474|1>.
- [3] *Risk management: The most important risks for the European Companies*. Accessed on 02/10/2016 <http://www.cfo.sk/articles/risk-manazment-najvacsie-rizika-ktorym-celia-europske-firmy#.WAXdBiQ8phY>.2013.
- [4] Treasury Risk Survey. *Report of Survey Results*. Accessed on 20/09/2016 http://zanders.eu/files/media/2013_Treasury_Risk_Survey_Report.pdf.
- [5] J. Belás, P. Bartoš, J. Habánik, and P. Novák, Significant Attributes of the Business Environment in Small and Medium-Sized Enterprises. *Economics and Sociology*, vol. 7, no 3, 2014, pp. 22-39.
- [6] J. Vodak, J. Soviar, and V. Lendel, Cooperation management in Slovak enterprises. *Procedia Social and Behavioral Sciences, Proceedings of 2nd world conference on business, economics and management*, Istanbul, Turkey, 2014, pp. 1147-1151.
- [7] M. Hudakova, K. Buganová, J. Dvorský; J. Belas, and L. P. Dana, Analysis of the risks of small and medium-sized enterprises in the Žilina region. *Communications: scientific letters of the University of Žilina*. Vol. 17, no. 1. 2015, pp. 34-39.
- [8] P. Kral, and T. Kliestik, Estimation of the level of risk based on the selected theoretical probability distributions. *Proceedings of the 10th International Scientific Conference on Financial Management of Firms and Financial Institutions Location*, Ostrava, Czech republic, 2015, pp. 603-610.
- [9] M. Frankovský. Kognitívne omyly a rozhodovanie manažérov. *Zborník príspevkov Manažérske rozhodovanie v kontexte situačných a osobnostných charakteristík*. Prešov : FM PU, 2015, pp. 98-108.
- [10] L. Šimák, and V. T. Míka, Úskalí rozhodovania v krízových situáciách. *Science&Military/Veda a vojenstvo*. No 1, Vol. 3, 2008, pp. 57 – 61.
- [11] S. Hammond, R. L. Keeney, and H. Raifa, The Hidden Traps in Decision Making. *Harvard Business Review*, 1998, reprinted in 1/2006, pp. 118-125. Accessed on 12/10/2016 https://www.researchgate.net/publication/40968941_The_Hidden_Traps_in_Decision_Making.
- [12] E. Zibrinová, and Z. Birknerová. *Myslenie v kontexte kognitívnych omylov*. Prešov: Bookman, 2015. 134 p. Accessed on 08/10/2016 http://www.unipo.sk/public/media/23866/MYSLENIE%20V%20KONTEXTE%20KOGNITIVNYCH%20OMYLOV_komplet.pdf.
- [13] L. R. Beach, and T. Connolly, *The psychology of Decision Making*. People in Organisation. London: SAGE. 2005, pp. 240.
- [14] E. Hančovská, 2009. Osobnosť manažéra a zvládanie náročných situácií v manažmente. *Sociálne a politické analýzy*, Vol. 3, č.1, 2009, p. 49-72. Accessed on 12/10/2016 <http://sapa.ff.upjs.sk/images/files/83131659236843Hancovska.pdf>.
- [15] V. Míka, Personality and Competencies of Crisis Managers. *Zborník z medzinárodnej vedeckej konferencie „Global Business & Economic Development”*. New Jersey: Montclair State University/Bratislava: FM UK, 2001, p.5.5.4. Accessed on 6/10/2016 <http://www.akademicky>

repozitar.sk/Vladimir-Tomas-Mika/Personality-and-competencies-of-crisis-managers.

- [16] H. Urbancová, and M. Hudáková, *Employee Development in Small and Medium Enterprise in the Light of Demographic Evolution*, Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, volume 63, Number 3, 2015, pp.1043-1050.