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IMPACTS OF BEHAVIORAL ASPECTS ON FINANCIAL DECISION-MAKING OF OWNERS OF WOODWORKING AND FURNITURE MANUFACTURING AND TRADING ENTERPRISES

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ABSTRACT

Behavioral finance is an area or sub-discipline of behavioral economics examining real financial behavior and decision-making of people, including the knowledge of psychology and sociology. The objective of the paper is to identify and investigate the impact of significant cognitive, psychological and emotional factors affecting the financial decision-making of owners of woodworking, furniture manufacturing and trading enterprises. The mapping of the addressed issue was carried out by means of an empirical survey in the practice of Slovak woodworking and furniture manufacturing and trading enterprises in the form of a questionnaire. The results of the survey were evaluated by descriptive, graphical and mathematical-statistical methods. Conclusions and recommendations were formulated based on the identification of key behavioral aspects (knowledge, security, freedom and sadness), their implementation could contribute to eliminate negative deviations and errors in the financial decision-making process of owners of woodworking and furniture manufacturing and trading enterprises.

Key words: behavioral finance, behavioral biases, woodworking enterprises, furniture manufacturing and trading enterprises, owners.

INTRODUCTION

Decision making is one of the basic cognitive processes of human behavior by which a preferred option or a course of actions is chosen from among a set of alternatives based on certain criteria (WANG and RUHE 2007). Financial decisions are among the most important life-shaping decisions made by people. Because of cognitive constraints, many household decisions violate sound financial principles. Households typically have underdiversified stock holdings and low retirement savings rates. Investors overextrapolate from past returns and trade too often. Even top corporate managers, who are typically highly educated, make decisions that are affected by overconfidence and personal history. Many of these behaviors can be explained by well-known principles from cognitive science (FRYDMAN and CAMERER 2016).

Behavioral finance is an area or sub-discipline of behavioral economics that examines real behavior and decision-making of people and investors in the field of finance, including the knowledge of psychology and sociology (BALÁŽ 2009, BIKAS *et al.* 2013, AHMAD 2017,

KAPOOR and PROSAD 2017, VALÁŠKOVÁ *et al.* 2019). According to ASAB *et al.* (2014), MADAAN and SINGH (2019), behavioral finance explains our action and behavior but modern finance is related to the explanation of actions of an economic man. According to MUSA *et al.* (2016), traditional finance is related to decisions in which full information are available for making investment decision.

In order to understand and explain individual decision making and investment behavior, it is necessary to study behavioral factors which impact it. Various scholars have studied factors of financial behavior and their impact on financial decision making, and in particular a special focus has been given to psychological biases. Usually investors are not aware of their behavioral biases. If investors become conscious of biases they can face, they can act more rationally (SEDAGHATI 2016, DERVISHAJ 2018). According to REHAN and UMER (2017) and BENČIKOVÁ *et al.* (2013), behavioral biases include both cognitive biases (such as anchoring, representativeness, mental accounting and availability) and emotional biases (such as risk aversion, overconfidence and regret aversion). TVERSKY and KAHNEMAN (1974) described in their article "*Judgment under Uncertainty: Heuristics and Biases*" the systematic errors in thinking of ordinary people, while analyzing the origin of such errors in the cognitive mechanism. They found out that emotional and psychological factors were the source of a change in the behavior of the subjects, but only when these were borderline situations of decision-making and getting to know something unknown. In that case, this could also be applied to the targeted subject of decision-making, i.e. owners of woodworking (WW) and furniture manufacturing and trading (FMT) enterprises.

According to POMPIAN (2006), standard economic theory is designed to offer mathematically structured solutions and to perceive the human being as an economically rational subject. They are based on idealized financial behavior. Behavioral finance, in turn, tries to emulate the phenomenon of the human psyche and is based on observed behavior. AKERLOF and SHILLER (2010) and CHAFFAI and MEDHIOUB (2014) state that behavioral finance has originated as a new trend in economics and focuses on the economic aspects of deviations from the rational behavior of subjects, especially the impact of cognitive distortions, psychological and emotional condition of the subject. Factors of human behavior influence decision-making and disable to receive rationally new information through emotional action.

The most significant psychological, emotional and cognitive factors are (DOLAN 2002):

- love, hatred, sadness, happiness, powerlessness, panic, depression, desperation, anxiety (emotional);
- knowledge, expertise, concentration, recognition ability, logical thinking, human character, short-term and long-term memory process (cognitive);
- power, security, certainty, personality, shame, self-esteem, freedom, self-realization, friendship, health, attractiveness (psychological).

According to HITKA *et al*. (2019) and LORINCOVÁ *et al.* (2019), the quality of human potential plays an important role and it is a key factor that affects the running of a company, its prosperity, as well as sustainable development. Currently, when advances in technology, information, and globalization occur most often, the human factor is becoming the biggest competitive advantage in woodworking enterprises.

The Slovak Republic is relatively independent of importing the natural resources inputs, being built on a domestic resource base of sustainable character, and therefore it is able to permanently show active balance of foreign trade. In relation to the positive situation related to natural resources, their suitable geographic location, and their acceptable energetic demands for processing wood, woodworking industry represents an important field of industry for the Slovak national economy, while thus enabling further development of small

and medium enterprises (HAJDÚCHOVÁ *et al.* 2016). Woodworking industry is composed of the wood, furniture, and cellulose-paper industries. These are based on processing wood, i.e. domestic ecological resource (POTKÁNY *et al.* 2018).

The objective of the paper is to identify and investigate the impact of significant cognitive, psychological and emotional factors affecting the financial decision-making of the owners of WW and FMT enterprises.

METHODOLOGY

The research was focused on the analysis of the current situation of the issue concerning behavioral aspects that influence the financial decision-making of owners of WW and FMT enterprises. The data collection was carried out by means of a questionnaire survey focused on the WW and FMT enterprises operating in Slovakia. The first part of the questionnaire included demographic data, the aim of which was to differentiate the respondents according to the size of the enterprise (micro, small, medium and large), type of enterprise (production and non-production sector), length of time on the market (less than 1 year, less than 5 years, less than 15 years and more than 15 years) and the job position in the enterprise (employee, owner, manager). The second part of the questionnaire contained questions aimed at the expressing agreement or disagreement of the respondents with statements in the field of cognitive, psychological and emotional factors. Respondents expressed their opinion using five-step rating scale (-2 – very negative, -1 – negative, 0 – don´t know, 1 – positive, 2 – very positive) for each cognitive, psychological and emotional factor. The aim was to find out which behavioral factors have a significant impact on owners´financial decision-making.

The whole sample consisted of all organizations and entreprises operating in the Slovak Republic, i.e. 559,841 active economic subjects (Slovak Business Agency, 2019). The random and purposive sampling was used for the selection of respondents into the selected sample. The purposive sampling was used for the selection of WW and FMT enterprises. Respondents were addressed through electronic forms (questionnaires) sent directly to their addresses. Subsequently, the sample size was defined using a mathematical relationship to calculate the minimum number of respondents to be involved in the survey (KOZEL *et al.* 2006):

$$n \geq \frac{(z^2 \times p \times q)}{\Delta^2} \rightarrow \geq \frac{(1.96^2 \times 0.5 \times 0.5)}{0.05^2} \rightarrow n = 384 \qquad (1)$$

n – minimum number of respondents;

z – coefficient of reliability (z=1.96 =>the reliability of the research reaches 95.0%);

p and q - the percentage of questioned respondents (the extent of knowledge of respondents with regard to the problem is unknown, the whole sample is divided in half, i.e. p and q = 50%);

Δ - maximum acceptable error (the value of maximum acceptable error was determined at 5%).

Out of the total number of 2.549 respondents, 453 respondents participated in the questionnaire survey. In order to keep the contextual framework of the paper, the evaluation of the survey results focused on the 412 owners of WW and FMT enterprises. Figure 1 presents the percentange of respondents according to the job position in the enterprise. Out of the total number of respondents, 91% were owners, 5% managers and 4% employees. On this basis, it was necessary to exclude 41 respondents from the sample, i.e. 23 managers and 18 employees.

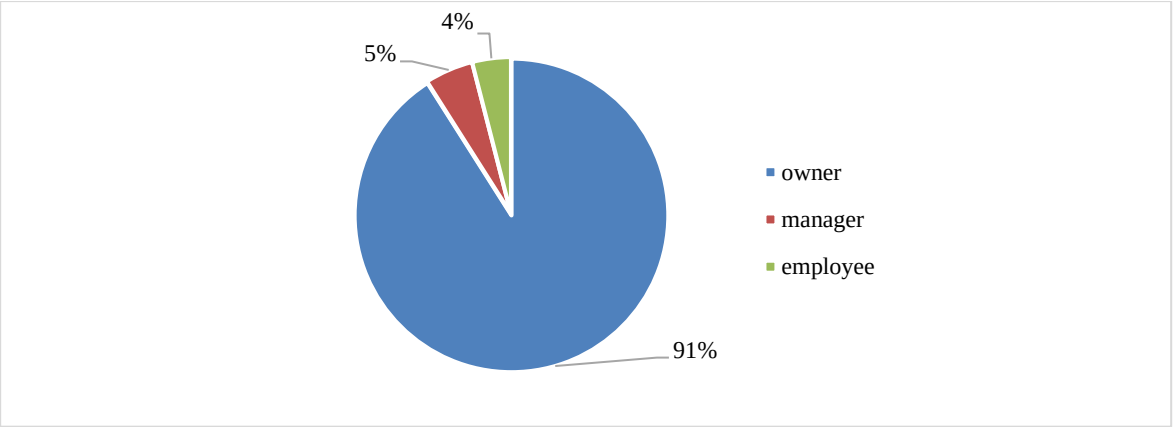

Fig. 1 Proportion of respondents according to the job position.

Two research questions (RQ) were formulated within the research area:

RQ1 – What emotional factors are the source of cases when people change their behavior and deviate from rationality?

RQ2 – Which key cognitive, psychological and emotional factors influence the rational decision-making behavior of owners of WW and FMT enterprises?

Based on the research questions and the available literary sources (TVERSKY and KAHNEMAN 1974, DOLAN 2002, POMPIAN 2006, AKERLOF and SHILLER 2010, CHAFFAI and MEDHIOUB 2014) four hypothesis were formulated as follows:

H1 = It is assumed that people are rational and their behavior corresponds to that. Emotions such as fear, love and hatred are the source of cases when people change their behavior and deviate from rationality.

H2 = It is assumed that the key factor that most influences the rational decision-making behavior of owners of WW and FMT enterprises is the expertise as a cognitive factor.

H3 = It is assumed that the key factor that most influences the rational decision-making behavior of owners of WW and FMT enterprises is the certainty as a psychological factor.

H4 = It is assumed that the key factor that most influences the rational decision-making behavior of owners of WW and FMT enterprises is the happiness as an emotional factor.

The results of the survey were processed and evaluated with statistical software STATISTICA 10. Testing was performed at the significance level $\alpha = 0.05$. Graphical and descriptive methods were applied in order to evaluate the hypothesis H1. Pearson´s Chi-square test and contingency coefficients (Cramer´s V and Pearson´s contingency coefficient C) were used to evaluate the hypothesis H2, H3 and H4.

RESULTS AND DISCUSSION

It terms of the enterprise size, the structure of the research sample consisted mainly of small enterprises (41%), medium enterprises (28%) and micro enterprises (25.1%). Large enterprises represented the lowest proportion (5.90%). Enterprises operating in the production sector constituted 65% and the rest was represented by the non-production sector (woodworking and furniture trading enterprises). With regard to the time on the market, the enterprises operating for less than 15 years (42%) and more than 15 years (34%) presented the biggest proportion. Enterprises operating on the market for less than 5 years constituted

17% and the rest 7% was represented by enterprises with less than 1 year on the market.

Figure 2 presents the findings concerning the change in behavior of owners of *WW and FMT enterprises* in borderline (unknown) situations by expressing their attitudes to the statement using five-step rating scale: *Emotions such as fear, love and hatred are the source of cases when people change their behavior during borderline (unknown) situations*. A very positive attitude with this statement was expressed by 18.3% of respondents and half (51.0%) respondents indicated a positive attitude. 22.9% of the respondents were not able to express themselves clearly and a total of 7.90% of respondents expressed negative or very negative attitudes. It follows that these owners do not consider specific emotions to be the cause of changes in their behavior. The hypothesis H1 has been confirmed by the graphical evaluation, *i.e. the assumption that people are rational and their behavior corresponds to that. Emotions such as fear, love and hatred are the source of cases when people change their behavior and deviate from rationality.*

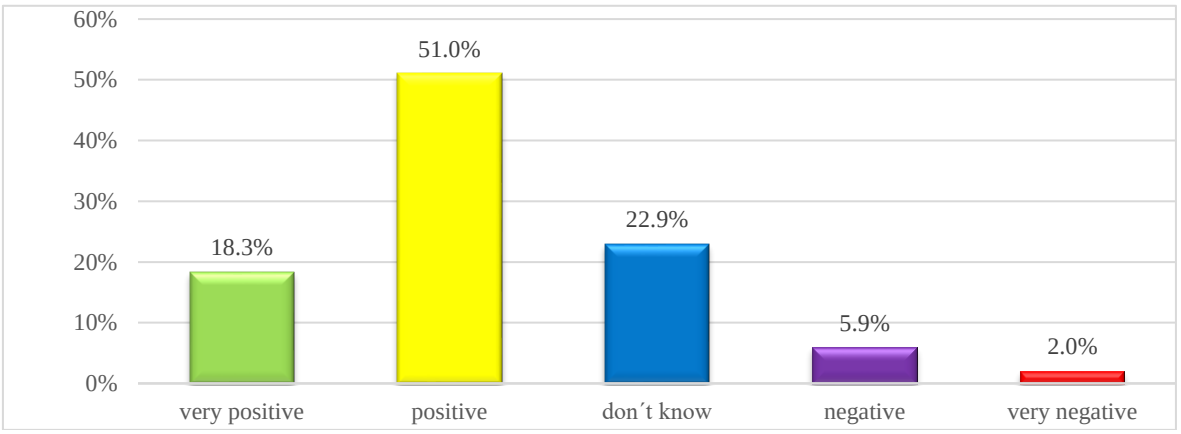

Fig. 2 Emotions of fear, love and hatred as sources of behavioral change.

Another part of the results was focused on investigating the impact of cognitive, psychological and emotional factors on the behavior of owners in decision-making situations. Respondents could select several aspects belonging to groups of cognitive, psychological and emotional factors. Figure 3 presents the impact of cognitive factors on the rational behavior of owners. ***Out of cognitive factors, expertise*** has the biggest impact on rational behavior in the decision-making process of owners (72.7%). Other significant cognitive factors are knowledge (67.6%), logical thinking (56.7%) and character of the owners (54.3%).

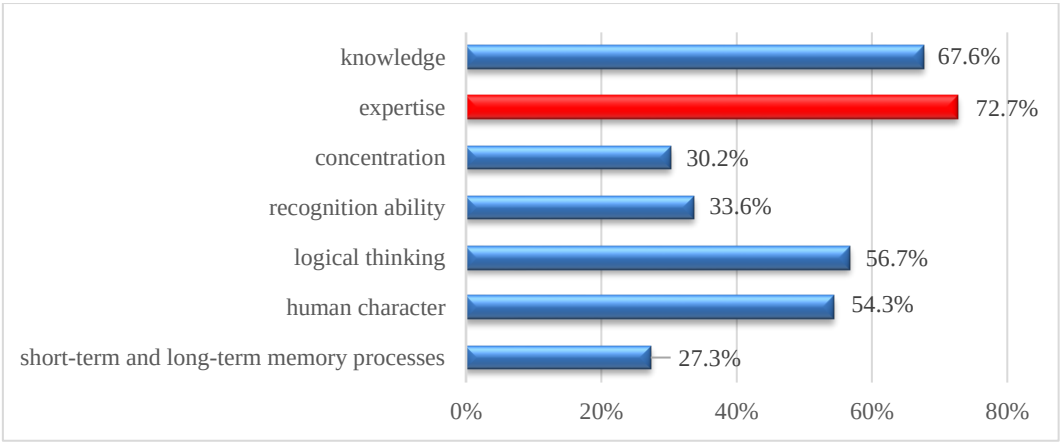

Fig. 3 Impact of cognitive factors on the rational behavior of owners of WW and FMT enterprises.

Out of the ***psychological factors***, it is the ***certainty*** (73.5%) that has the most significant impact on rational behavior of the owners. Security (67.6%), personality (49.1%) and self-realization (46.2%) have also reached a considerable impact. Figure 4 presents the significance of individual psychological factors.

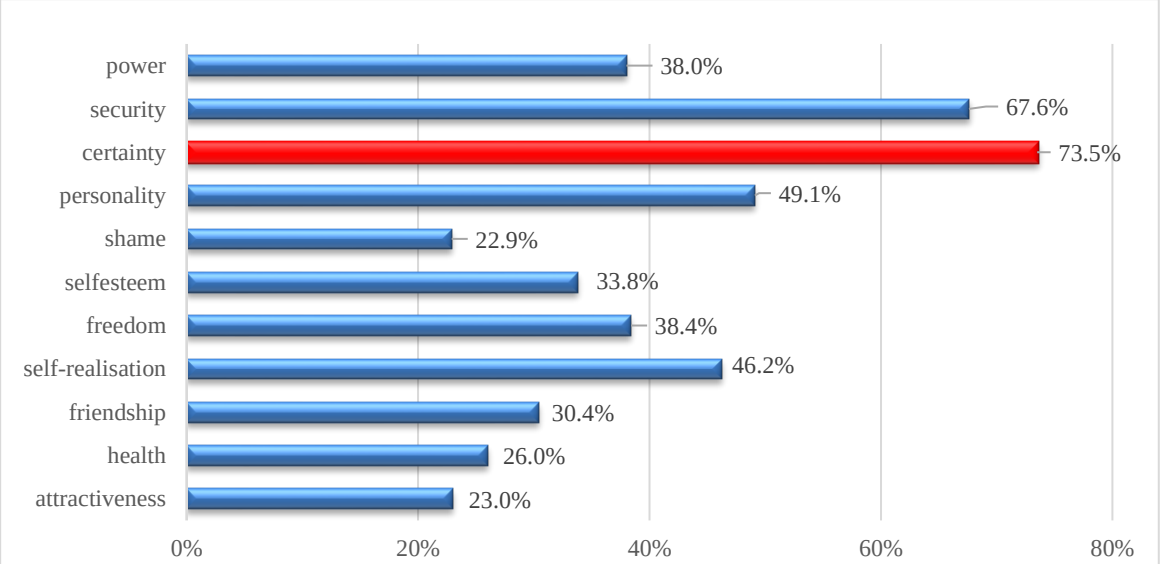

Fig. 4 The impact of psychological factors on the rational behavior of owners of WW and FMT enterprises.

Happiness (76%) is the most important factor influencing the rational behavior of the owners in terms of ***emotional factors***. Sadness (67.4%) as a counterpart of happiness is the second significant emotional factor. Love and hatred ranked among the third important factors. The significance of individual emotional factors for the rational behavior of owners is presented in Figure 5.

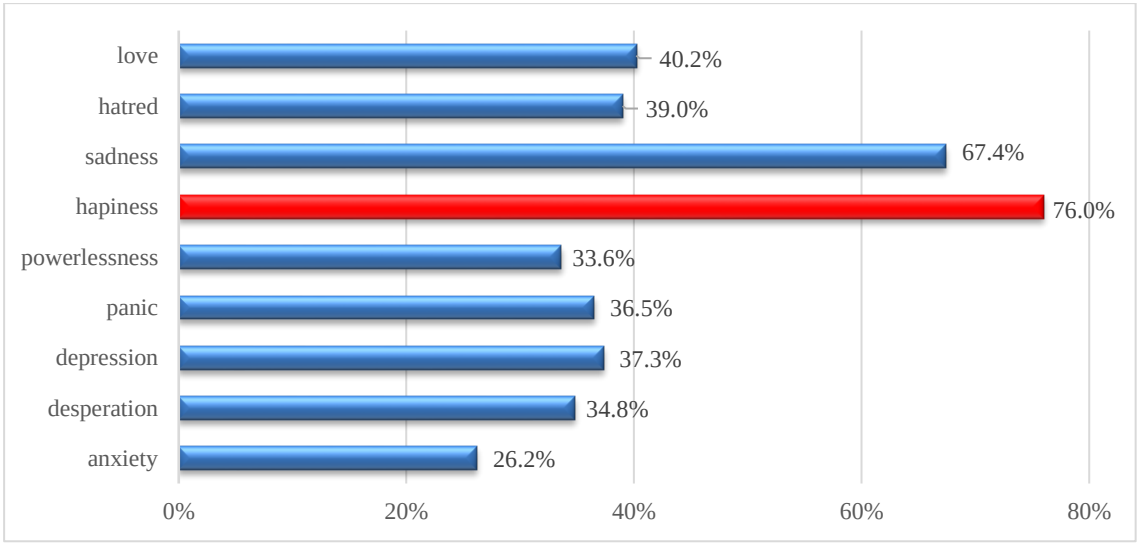

Fig. 5 The impact of emotional factors on the rational behavior of owners of WW and FMT enterprises.

In relation to the second research question, the graphical evaluation of the impact of behavioral (cognitive, psychological and emotional) factors has revealed that *the key factors that most influence the rational decision-making behavior of owners of WW and FMT enterprises are the expertise as a cognitive factor, certainty as psychological and happiness as an emotional factor.*

In the next part of the paper, the impact of cognitive, psychological and emotional factors on the financial decision-making process were pointed out through mathematical-statistical analysis.

Based on the p level (0.00824), the null hypothesis in favor of the alternative hypothesis was rejected, implying *a dependence between the influence of knowledge as a cognitive factor and owners of WW and FMT enterprises* (Table 1). Less than 20% of theoretical frequencies were less than the value 5, thus the condition of good approximation was fulfilled. The value of the Cramer´s V reached the level 0.1526185, which pointed out the existence of a weak dependence between the respondent's job position and the impact of behavioral aspects on the financial decision-making process.

Tab. 1 Dependence between A4 (job position) and B7a (knowledge).

Statistics	Statistics: Owners x knowledge		
	Chi-square	Degrees of freedom	p
Pearson´s Chi-square test	9.596477	df=2	p=.00824
Contingency coefficient	.1508716		
Cramer´s V	.1526185		

Based on the statistical data evaluation of the impact of security on internal interest groups, it was possible to confirm the interdependence between individual variables (Table 2). Due to the value of p level (0.00000), the null hypothesis was rejected in favor of the alternative hypothesis with confirmation *of the existence of dependence between the owners of WW and FMT enterprises and security as a psychological factor.* Also, in this case, the condition of good approximation was fulfilled (less than 20% of theoretical frequencies were less than 5). The contingency coefficient with the value of 0.2383203 and the Cramer´s V 0.453908 pointed out the existence of weak dependence between the job position of the respondents and behavioral aspects on financial decision-making process.

Tab. 2 Dependence between A4 (job position) and B7b (security).

Statistics	Statistics: Owners x security		
	Chi-square	Degrees of freedom	p
Pearson´s Chi-square test	24.80926	df=2	p=.00000
Contingency coefficient	.2383203		
Cramer´s V	.2453908		

By comparing the p level (0.01817) with the selected significance level ($\alpha = 0.05$), the null hypothesis was rejected (Table 3). The rejection of the null hypothesis in favor of the alternative hypothesis confirmed the *existence of dependence between freedom as a psychological factor and owners of WW and FMT enterprises.* The condition of good approximation was fulfilled also in this case. The contingency coefficient with the value of 0.381510 and the Cramer´s V 0.1394885 showed a weak dependence between the variables.

Tab. 3 Dependence between A4 (job position) a B7b (freedom).

Statistics	Statistics: Owners x freedom		
	Chi-square	Degrees of freedom	p
Pearson´s Chi-square test	8.016305	df=2	p=.01817
Contingency coefficient	.1381510		
Cramer´s V	.1394885		

Based on statistical observation, the p level was lower than the significance level (0.00000<0.5), which led to the rejection of the null hypothesis in favor of the alternative hypothesis, i.e. *the existence of dependence between the sadness as an emotional factor and owners of WW and FMT enterprises* (Table 4). Out of the statistical results, less than 20% of theoretical frequencies were less than 5, thus satisfying the condition of good approximation. The contingency coefficient with the value of 0.3087603 and the Cramer´s V 0.3246214 pointed out the existence of medium strong dependence between the variables.

Tab. 4 Dependence between A4 (job position) a B7c (sadness).

Statistics	Statistics: Owners x sadness		
	Chi-square	Degrees of freedom	p
Pearson´s Chi-square test	43.41616	df=2	p=.00000
Contingency coefficient	.3087603		
Cramer´s V	.3246214		

Mathematical-statistical analysis of the impact of behavioral (cognitive, psychological and emotional) factors has confirmed the hypothesis H2, H3, and H4. These include *knowledge* (cognitive factor), *security and freedom* (psychological factor), *sadness* (emotional factor). The key behavioral aspects have contributed to the formulation of conclusions and recommendations aimed at the elimination of systematic errors in the financial decision-making of owners of WW and FMT enterprises.

Knowledge is the most valuable factor for the owners. It is considered the ability to use the expertise effectively to reach profit and growth. By applying, training and trying of expertise, it is possible to gain experience gradually and so increases the level of knowledge (BENČIKOVÁ *et al.* 2019). The lack of knowledge leads to subsequent errors in the first phase of decision making - lack of necessary information. OMARLI (2017) confirms in his study that intelligence, cognitive style, age, experience and level of knowledge play an important role in the decision-making process.

Security makes an everyday part of our lives. The owners of enterprises regularly make decisions based on subjective and objective factors to feel safe and that nothing would jeopardize the security of the enterprise. In the context of business activities, we encounter various security threats that negatively affect the functioning of the enterprise. As a result, fear and uncertainty prevail among most owners and entrepreneurs. With regard to fear and uncertainty, it is extremely important to set the objectives correctly at every decision-making and determine the likelihood of threats based on knowledge. Relevant information and sufficient knowledge and experience of the decision makers applied to solve the decision-making problem, help to specify the likelihood of occurrence of certain phenomenon and

also to identify the potential consequences of different decisions. The assessment of likelihood is extremely important since its task is to determine the extent, i.e. quantify the considered uncertainty. Under the conditions of uncertainty, the owners of enterprises can use a lot of historical data to determine likelihood of individual variants. In case they have no relevant information, the solution variants would not contribute to solving the occurred problem in the decision-making process. MERIGO (2015) confirms that our contemporary world is significantly influenced by various kinds of uncertainty. Some decisions are made intuitively and just with partially available information. There is no optimal decision-making model because the majority of decisions are made under the conditions of uncertainty.

Freedom of choice and decision-making are inseparable parts of a human being. Every entrepreneur wants to be own boss in the business, make decisions based on own convictions and experience, and so boldly realize the set goals. The owners (entrepreneurs) become often responsible for many other people who they manage and work with. Despite the fact that most owners (entrepreneurs) have a supportive network of people they can consult when making difficult and important decisions, the final decision is in the hands of enterprise owners. The meaning lies in the accepting responsibility for the decisions. LAU and HIEMISCH (2017) point out in their study that the freedom of making decisions has not been so far sufficiently described as a psychological variable. They presented a model of functional freedom of decision-making, i.e. inner ability to shape consciously complex decisions according to their own values and needs. Functional freedom is greatest when the decision-maker is rational, the structure of the decision is very vague and the decision-making process is based on conscious thinking and reflection.

Sadness as an emotional factor has an important impact on the behavior of owners of WW and FMT enterprises and in many cases, it hinders rational thinking. Whereas it invokes negative emotions in people, it absorbs the thinking. It this case it is possible to assume that the owners would make incorrect decisions in the first phase and the feedback can reveal that the choice of the variant was not correct. SHU *et al*. (2016) confirm the impact of sadness on the rational behavior in their study so that the sadness makes people (managers, owners) risk averse, less patient and more sensitive to negative experiences.

Many scholars (VIRLICS 2013, FRANCO and SANCHEZ 2016, KONSTANTINIDIS *et al.* 2018, TUR-PORCAR *et al.* 2018) confirmed that the effect of psychological, cognitive and emotional factors on an individual´s decisions is substantial and fundamental.

Owners of WW and FMT enterprises should accept individual behavioral aspects that have a significant impact on their decision-making. It is, therefore, necessary to understand the meaning of the impact of individual factors on their decision-making process in the enterprise and thus in time prevent the negative effect on their rational thinking. For each enterprise owner, victory means not just to defeat and dominate the market, but above all to win over themselves in terms of controlling their emotions, seeking independent thinking and resilience to the environment. According to KORTE (2003) and NIKOLIĆ (2018), important activities that could prevent systematic errors in financial decision-making may include to understand and avoid psychological deviations; to acquire sufficient experience and knowledge; not to overlap private life with the professional; to understand own deficiencies and avoid disturbances; early identification of potential risks and threats; backward look at strategy and reorganization; sufficient time for making important decisions; not making hasty decisions; and listen and be open to the opinions of others.

CONCLUSION

Entrepreneurship is a long-term, demanding process that requires a high level of involvement of enterprise owners. The performance of enterprise owners depends principally on their knowledge and experience. It is important to make the right decision and to have a sense of responsibility. It is essential to be able to communicate, feel empathetically, listen, be tolerant to others and have the ability of self-control at coping with stressful situations. Behavioral factors – knowledge, security, freedom and sadness inherently affect the behavior of owners at financial decisions in the enterprise.

Lack of experience and knowledge of business can lead to incorrect financial decisions that could jeopardize the existence of the business itself. Security is essential in terms of product quality and creates conditions for fulfilling the functions of the enterprise and achieving the set objectives in a stable environment. Freedom is the power of choice that is used to make important financial decisions. Sadness has a significant impact on owner's behavior change, and this effect can manifest itself in a positive way (positive thinking, avoiding negative and risk factors, talks) or in a negative way (failure to meet business objectives, worsening reputation, jeopardizing business existence).

REFERENCES

AHMAD, S. 2017. Factors Influencing Individual Investors´ Behavior: An Empirical Study of Pakistan Financial Markets. In Journal of Business and Financial Affairs, 2017, 6(4): 1-8.

AKERLOF, G. A., SHILLER, R. J. 2010. Živočišné pudy. Jak lidská psychologie ovlivňuje ekonomiku. Praha: Argo, Dokořán.

ASAB, Z. M., MANZOOR, S., NAZ, H. 2014. Impact of Behavioral Finance and Traditional Finance on Financial Decision Making Process. In Journal of Economics and Sustainable Development, 2014, 5(18): 89-95.

BALÁŽ, V. 2009. Riziko a neistota. Karlova Ves: VEDA.

BENČIKOVÁ, D., MALÁ, D., ĎAĎO, J. 2019. Intercultural Competences in Slovak Business environment. In E & M Ekonomie a management, 2019, 22 (3): 51–66.

BENČIKOVÁ, D., MALÁ, D., MINÁROVÁ, M. 2013. How Culturally Intelligent are Slovak Small and Medium Business? In Procedia from 7th International Days of Statistics and Ecnomics, 109–121.

BIKAS, E., JUREVIČIENE, D., DUBINSKAS, P., NOVICKYTE, L. 2013. Behavioural Finance: The Emergence and Development Trends. In Procedia – Social and Behavioral Sciences, 82: 870–876.

CHAFFAI, M., MEDHIOUB, I. 2014. Behavioral finance: An empirical study of the Tunisian stock market. In International Journal of Economics and Financial Issues, 2014, 4(3): 527–538.

DERVISHAJ, B. 2018. Psychological Biases, Main Factors of Financial Behaviour. In European Journal of Natural Sciences and Medicine, 2018, 1(2): 25–35.

DOLAN, J., R. 2002. Emotion, Cognition, and Behavior. In Science, 2002, 298(5596): 1191–1194.

FRANCO, M., SANCHES, C. 2016. Influence of Emotions on Decision-Making. In International Journal of Business and Social Research, 2016, 6(1): 40–62.

FRYDMAN, C., CAMERER, C. 2016. The Psychology and Neuroscience of Financial Decision Making. In Trends in Cognitive Science, 2016, 20(9): 1–15.

HAJDÚCHOVÁ I., SEDLIAČIKOVÁ M., HALAJ D., KRIŠTOFÍK P., MUSA H., VISZLAI I. 2016. Slovakian forest-based sector in the context of globalization. In BioResources, 2016, 11(2): 4808–4820.

HITKA, M., KUCHARČÍKOVÁ, A., STARCHOŇ, P., BALÁŽOVÁ, Ž., LUKÁČ, M., STACHO, Z. 2019. Knowledge and Human Capital as Sustainable Competitive Advantage in Human Resource Management. In Sustainability, 2019, 11(18): 4985.

KAPOOR, S., PROSAD, J. M. 2016. Behavioural Finance: A Review. In Procedia Computer Science, 2016, 122: 50–54.

KONSTANTINIDIS, A., SPINTHIROPOULOS, K., MALLIDIS, I. 2018. Behavioral Finance and Investment Advisers. In Journal of Business and Management, 2018, 20(7): 30–33.
KORTE, F., R. 2003. Biases in Decision Making and Implications for Human Resource Development. In Advances in Developing Human Resources, 2003, 5(4): 440–457.
KOZEL, R. 2006. Moderní marketingový výzkum: nové trendy, kvantitativní a kvalitativní metody a techniky, průbeh a organizace, aplikace v praxi, přínosy a možnosti. Praha: Grada Publishing, a.s.
LAU, S., HIEMISCH, A. 2017. Functional Freedom: A Psychological Model of Freedom in Decision-Making. In Behavioral Sciences, 2017, 7(3): 41.
LORINCOVÁ, S., STARCHOŇ, P., WEBEROVÁ, D., HITKA, M., LIPOLDOVÁ, M. 2019. Employee motivation as a Tool to Achieve Sustainability of Business Processes. In Sustainability, 2019, 11(13): 3509.
MADAAN, G., SINGH, S. 2019. An Analysis of Behavioral Biases in Investment Decision-Making. In International Journal of Financial Research, 2019, 10(4): 55–67.
MERIGO, M. J. 2015. Decision making under risk and uncertainty and its application in strategic management. In Journal of Business Economics and Management, 2015, 16(1): 93–116.
MUSA, H., MUSOVÁ, Z., STROKOVÁ, Z. 2016. Financing of small and medium sized enterprises in selected EU countries. In Proceedings from 8th International Scientific Conference on Managing and Modelling of Financial Risks, 666–674.
NIKOLIĆ, J. 2018. Biases in the decision-making process and possibilities of overcoming them. In Economic Horizons, 2018, 20(1): 43–57.
OMARLI, S. 2017. Which Factors have an Impact on Managerial Decision-Making Process? An Integrated Framework. In Essays in Economics and Business Studies, 2017, 83–93.
POMPIAN, M. M. 2006. Behavioral Finance and Wealth Management: How to Build Optimal Portfolios That Account for Investor Biases. New Jersey: John Wiley α Sons, Inc.
POTKÁNY, M., GEJDOŠ, M., DEBNÁR, M. 2018. Sustainable Innovation Approach for Wood Quality Evaluation in Green Business. In Sustainability, 2018, 10(9): 2984.
REHAN, R., UMER, I. 2017. Behavioural Biases and Investor Decisions. In Market Forces, 2017, 12(2): 12–20.
SEDAGHATI, B. 2016. Psychology of behavioral finance. In International Journal of Humanities and Cultural Studies, 2016: 2665–2677.
SHU, T., SULAEMAN, J., YEUNG, P. E. 2016. Does Sadness Influence Investor Behavior? In SSRN Electronic Journal, 2016, 1–35.
Slovak Business Agency. 2019. Malé a stredné podnikanie v číslach v roku 2018. [online]. [cit. 2020-01-22] Available: <http://www.sbagency.sk/sites/default/files/msp_v_cislach_2018.pdf>.
TUR-PORCAR, A., ROING-TIERNO, N., LLORCA-MESTRE, A. 2018. Factors Affecting Entrepreneurship and Business Sustainability. In Sustainability, 2018, 10(2): 452.
TVERSKY, A., KAHNEMAN, D. 1974. Judgment under Uncertainty: Heuristics and Biases. In Science, 1974, 185(4157): 1124–1131.
VALÁŠKOVÁ, K., BARTOŠOVÁ, V., KUBALA, P. 2019. Behavioural Aspects of the Financial Decision-Making. In Organizacija, 2019, 52(1): 22–31.
VIRLICS, A. 2013. Emotions in Economic Decision Making: a Multidisciplinary Approach. In Procedia - Social and Behavioral Sciences, 2013, 92: 1011–1015.
WANG, Y., RUHE, G. 2007. The Cognitive Process of Decision Making. In International Journal of Cognitive Informatics and Natural Intelligence, 2007, 1(2): 73–85.

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