Risk Management in SMEs: The Croatian Experiences

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1 Introduction

In the context of globalisation, turbulence and recession, the future of the enterprise depends on how the management handles risks, how it will organise its uncertainty and threat management activities, how it will engage employees, follow procedures and apply risk management tools. In other words, it is essential how the enterprise balances between highly likely risks generating minimal losses and highly unlikely risks generating huge losses (Federation of Risk Management Associations FERMA 2008).

The literature on business risk management shows that throughout the world risks are properly managed mostly by large enterprises, particularly multinationals, banking institutions and insurance companies with a well-developed organizational structure including controlling a high level of information, corporate knowledge management and clearly divided roles of the Board of Directors and Executive Officers. Such an approach is based on a high level of awareness of the need for an integral and a holistic approach to business risk management and an appropriate formal framework.

Objectives of the survey conducted on a sample of small enterprises in Croatia were the following: identification of business risks that have the largest impact on the sustainability of small enterprises today and in the future; identification of mechanisms that small enterprises apply for treating business risks; and identification of employees' participation in the process of business risk management.

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The limitation of the research survey was financing the survey on the relevant random sample of small enterprises in Croatia. Originality and value of this paper comes from the fact that it is the first study on this issue in the small enterprises sector in the Republic of Croatia.

The book chapter is organized in seven sections. In the second and in the third sections authors investigate the literature about small enterprises, risk and risk management. The overview of the methodology is described in the fourth section. The fifth section highlights the findings of the survey. The sixth section is dedicated to conclusions and recommendations for the further research. At the end of the chapter there is a list of references and information about the authors.

2 Small Enterprises

The sector of small enterprises in Croatia consists of 89,438 businesses, which accounts for 98 % of all companies. It employs 66.0 % of the total workforce and generates 53.6 % of total revenues. It accounts for nearly 44.0 % of direct exports, 56.4 % of post-tax profits and about 45 % of assets and 35.6 % of capital and reserves. Productivity is lower in small businesses than in large corporations. The small business sector is considered to be a significant initiator of innovation and change in the European Union (Croatian Chamber of Economy 2010)

In the First Section of the Annual Report on EU Small and Medium-sized Enterprises the following is highlighted (Audretsch et al. 2009):

(a) The EU non-financial business economy counts over 20 million enterprises, over 99 % of which are SMEs, i.e., enterprises having less than 250 employees. Within the SME sector, the vast majority (92 %) are micro enterprises, having less than ten employees. The typical European enterprise is a micro enterprise.
(b) Between 2002 and 2007, the number of SMEs increased by over two million, the number of large enterprise by only 2,000. Most new firms are created in the service sector and are micro enterprises.
(c) About two-thirds of total employment in the private sector is found in SMEs. Micro firms, which have on average two employees, employ 30 % of the total private sector labour force.
(d) SMEs' contribution to employment growth between 2002 and 2007 (84 %) was much larger than could be expected from their share in total employment (67 %).
(e) SMEs have a lower labour productivity than large enterprises. Thus, SMEs contribute considerably less to the added value (58 %) than to employment (67 %). Labour productivity is lowest in micro enterprises. SMEs and micro enterprises in particular, exhibit lower profitability and employee compensation than large enterprises.

Table 1 The role of SMEs in the contemporary economy of Croatia (RH) and EU

	Share (%) in						Average	
	Number of enterprises		Number of employees		Net profit	Added value	Number of employees in 1 unit	
Size	RH	EU	RH	EU	RH	EU	RH	EU
Small	98.0	98.7	47.5	50.4	41.9	40.0	4.7	3.0
Medium	1.5	1.0	18.5	16.8	15.8	18.0	113.8	100.0
Large	0.5	0.2	34.0	32.8	42.3	42.0	693.0	1,003.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	9.7	6.0
SMEs	99.5	99.7	66.0	67.2	57.7	58.0	6.5	4.0

Source: Croatian Chamber of Economy (2010), Audretsch et al. (2009)

(f) In a globalizing economy, with large incumbent firms outsourcing and off-shoring production and jobs to low cost locations, SMEs are an important source of job creation.
(g) In a globalised economy, when large corporations take advantage of relocating production facilities and business activities to cheaper locations, small businesses may become a significant source of employment at the local level.
(h) SMEs serve as the key mechanism facilitating knowledge spill-over.

The overview of the role of SMEs in the contemporary economy of Croatia and EU is presented in Table 1. The role is similar, as the data demonstrate.

3 Risk and Risk Management

When there is risk there must be at least two outcomes. If there is absolutely no doubt that the outcome will be loss, there is no risk. But if one of the possible outcomes is loss and the other a possible gain, the decision maker is facing risk by choosing between two situations. The term risk can be defined differently: as a possible loss, as a likely loss, as uncertainty, dispersion of actual from expected results or likelihood of any unexpected outcome (Vaughan and Vaughan 2000).

In the narrow sense of the word, risk designates danger of loss. While risk describes possible negative outcomes of decisions, activities and events, chances reflect their possible positive outcomes (Official Gazette of The Federal Republic of Germany 1998, pp. 42–46). In its broad sense, risk is considered in terms of its variability and dispersion. In the investment theory in particular, risk reflects a possibility of a different outcome, either better or worse than expected. From the perspective of internal audit, risk is considered as a danger that events, actions and/or missed opportunities may have a negative impact on achieving the objectives (Institut für Interne Revision Österreich 2006). Risk does not affect just one limited area, but also all primary and secondary areas that are mutually related. The risk of losing market share affects the turnover, output, storage, use of capacity, revenues, profits, cash flow, so it is difficult to narrow down the affected areas.

Table 2 The results of uncontrolled risk

Type of risk	Initial effect	Ultimate effect
Quality problem	Product recall, customer defection	Financial losses
Environmental pollution	Bad publicity, customer disfavor and defection, court action, fines	Financial losses
Health and safety injury	Bad publicity, worker compensation claims,	Human suffering
	workforce dissatisfaction, statutory fines	Financial losses
Fire	Harm to humans,	Human suffering
	loss of production and assets	Financial losses
Computer failure	Inability to take order, process work or issue Invoices, customer defection	Financial losses
Marketing risk	Revenue drops	Financial losses
Fraud	Theft of money	Financial losses
Security	Theft of money, assets or plans	Financial losses
International trading	Foreign exchange losses	Financial losses
Political risk	Foreign government appropriates assets; prevents repatriation of profits	Financial losses

Source: Sadgrove 2005, p. 8

Business risk is the risk of inability to achieve profit before tax. It is manifested in the danger that various business activities will not yield the expected and desired results, thus leading to unpredicted outcomes that will have a negative financial impact on business. It can be caused by an unforeseen and inimitable event, recruitment failure, wrong decision etc. Causes of inimitable and unforeseen events may lie in the company's operation itself, may be the result of former and current decisions or their poor execution and negative influences of environmental factors or poor judgement of their importance (Deželjin et al. 2002, p. 175). The results of uncontrolled risks are shown in Table 2.

A study by the Federation of European Risk Management Associations (FERMA) (2008) in 289 leading European companies, showed that 55 % of them saw operational, production and commercial risks as the most important, 41 % thought that legislation and regulation were also the most important, while 39 % were concerned about the risk of a major crisis. Thirty-seven per cent believed that data system risks were among the greatest. The same study also showed that some risks, such as data system risks, environmental risks and risks of corporate governance would grow in the future (Sadgrove 2005).

FM Global, the insurance company which operates in 125 countries throughout the world, conducted a study to determine what would cause the most disruption to the business in the future. Chief financial officers and risk managers of large firms who participated in the survey ranked labour issues as the single most important issue, followed equally by production issues, supply chain matters, fire/explosion, natural disasters, price fluctuation, IT and telecommunication systems, governments and regulations, frauds by executive management and employees, legislation, terrorism and sabotage (Sadgrove 2005).

Management can be defined as effective and efficient coordination of work activities in order to achieve the objectives set by the organisation. Effectiveness means yielding the best possible result using as few resources as possible. Efficiency means engaging only in activities that will lead to the realisation of the objectives (Robbins et al. 2005, p. 78). It denotes a process of achieving organisational goals working with people and through people as well as with other organisational resources. Management is the basic task of any organisation. It emphasises managers to design the internal environment, yet the organisation should not forget to plan to act in the external environment as well (Weihrich and Koontz 1998).

Managers sometimes consider the decision-making as their central task as they are continuously facing issues such as what to do, who by, when, where, and, occasionally even how. Decision-making is a process consisting of several steps: problem identification, setting relevant criteria for making the decision, assigning weights or significance to the selected criteria, generating, analysing and selecting alternatives, applying the selected alternative and assessing the effectiveness of the business decision. Each decision is a combination of factors: intuition, judgement and rationalisation. Thus there are three types of decisions: intuitive, experience-based and rational. Intuitive decisions are based on intuition, i.e., on the feeling of the decision-maker. The decision-maker is unable to explain the reasons why certain actions were taken during the decision-making process. Intuitive decisions are mostly made on a daily basis, in a word of mouth manner and are not documented. Decisions based on experience, are used in situations that are repeated. Decisions depend on the decision-makers prior experience, judgements and knowledge about the same or very similar situations. A rational decision is based on an analytical procedure which consists of a number of steps and it is used in situations that are not repeated. Decision-makers investigate the problem, collect data and consult the parties involved. Due to the analytical procedure, this type of decision-making is relatively slow and costly (Sikavica et al. 1999).

Risk applies to all enterprises. Risk management helps an enterprise to avoid costs, disruption and unhappiness. Risk management is based on the model of rational decision-making and it consists of several steps: communicating and consulting; establishing the context; risk assessment (identification, analysis and evaluation of risks), risk treatment; and continuous monitoring and reviewing risk (AS/NZS 4360:2004). Enterprises tend to introduce risk management in response to outside factors, such as scandals, legislation or regulation and are less likely to introduce risk management because it will help the business to produce better results (Sadgrove 2005). There are many standards that can help enterprises, regardless of their size, to manage business risk such as: ISO (International Organisation for Standardisation) standards in the form of Quality Management (ISO 9,000 family) (International Organization for Standardization 2008), Risk Management (ISO 31,000) (International Organization for Standardization 2009), Information Security Management (ISO 27,000 series) (International Organization for Standardization 2005b), Environmental Management (ISO 14,000 family) (International Organization for Standardization 2004), Food safety management systems (ISO 22,000) (International Organization for Standardization 2005a),

A Risk Management Standard (Federation of European Risk Management Associations FERMA 2002), A Risk Management Standard (The Institute of Risk Management IRM 2002), Risk Management Standard AS/NZS 4,360:2004 (Standards Australia and Standards New Zealand 2004). Apart from the above standards, business owners and risk managers can use available risk treatment and control options, such as insurance policy, contract, debenture/promissory note, credit limit, health and safety at work regulations, record of individuals and cars entering the company's premises, computer and data access protection, antivirus software, staff training and advising with consultants.

4 Research Design

Research has been carried out applying a combined method. Parallel transformative strategy was applied for parts of the theoretical framework of risk and risk management. A quantitative method was used for collecting data through a survey of small enterprises, conducted in 2011. A qualitative method was applied in researching legislation regulating the size and activity of enterprises, in interviewing owners of small enterprises in the preliminary research of the risk management issue and in the questionnaire testing stage. Data collected by quantitative and qualitative methods have been integrated at the analysis stage and the results interpretation stage. Following the preliminary research, the interview method was applied, and the survey was selected as the optimal method of investigation.

Survey research is one of the most important areas of measurement in applied social research. The broad area of survey research encompasses any measurement procedures that involve asking questions of respondents. Surveys can be divided into two broad categories: the questionnaire and the interview (Žugaj et al. 2006).

The goal of sampling is to obtain a sample that is representative of a larger population. Probability sampling is any sampling method in which every population unit has a chance of being selected in the sample, and this probability can be accurately determined. A random sample is a subset of individuals that are randomly selected from a population. Nonprobability sampling is any sampling method where some elements of the population have no chance of selection or where the probability of selection cannot be accurately determined. It involves the selection of elements based on assumptions, the selection of elements is nonrandom, and nonprobability sampling does not allow the estimation of sampling errors. Convenience sampling is a type of nonprobability sampling which involves the sample being drawn from the part of the population which is close at hand. A convenience sample is a sample of subjects taken from a group which is conveniently accessible to a researcher. The advantage of a convenience sample is that it is easy to access; the disadvantage is that it is not an accurate representation of the population and that the results from a study conducted with such sample cannot be generalized to the population as a whole (Žugaj et al. 2006).

Because of the large number of small enterprises and limited financial resources it was not possible to conduct the research on a random sample. Population scope

(N), i.e., the target basic set presented the final set of 89,438 small enterprises in the Republic of Croatia. Due to the availability of respondents, a convenience sample (n) of 150 small enterprises was drawn. The sample was set up in collaboration with the Croatian Employers' Association (HUP), consisting of The Association of Small and Medium-sized Entrepreneurs, The Association of Teachers/Trainers' for the Entrepreneurship, The Development Agency of Zagorje (ZARA) and several small enterprises which were accessible to the authors. The ratio of the sample size and population scope is called the choice fraction (f) (Žugaj et al. 2006). The choice fraction for the related research is 0.0017, Eq. 1.

$$f = \frac{n}{N} = \frac{150}{89{,}438} = 0.0017 \tag{1}$$

Descriptive statistics: the distribution, the central tendency and the dispersion were used to describe the basic features of the data in the study. They provide simple summaries about the sample and the measures. The distribution is a summary of the frequency of individual values or ranges of values for a variable. One of the most common ways to describe a single variable is using a frequency distribution. Depending on the particular variable, all of the data values may be represented or the values may be grouped into categories. The mean, the mode and the median are measures of central tendencies. The mean is equal to the sum of all the values in the data set divided by the number of values in the data set. The mode of a data set is the number that appears most frequently. The median of a data set is the middle number when the set is sorted in numerical order. Measures of the dispersion are standard deviation and variance. The variance is a measure of how far each value in the data set is from the mean. The standard deviation is a measure of the dispersion of a set of data from its mean. The more spread apart the data, the higher the deviation. Standard deviation is calculated as the square root of variance (Huzak 2006).

Questionnaires are usually paper-and-pencil instruments that the respondent completes. A multiple choice question with a single response is a type of form to be filled out by ticking one of the choices in a list. A multiple choice question with multiple responses is a type of form to be filled out by ticking one or more of the choices in a list. Questions and the choice of answers in the questionnaire were set up based on the literature overview and preliminary interviews with owners-managers of small enterprises.

The questionnaire was designed using multiple choice questions with a single response and multiple responses to produce large amounts of general data, as well as risk and risk management related topics. The questionnaire was split into two sections. The first section of the questionnaire consisted of 11 multiple choice questions with a single response about the name of the enterprise, legal form, head office, foundation year, core business activity, the average number of employees, revenues, funding and value of long-term assets. It also covered the respondents' age, job position, work experience in the current position, and

educational background. Business activities were classified according to the Croatian national classification of economic activities NKD 2007 (Official Gazette of Republic of Croatia, No. 58/07 2007).

In the second section of the questionnaire the respondents were asked to answer three questions. The first question was about the exposure of their businesses to 13 risk categories nowadays and in the future. To list the risk categories, authors used an adjusted decomposition of risk categories based on the Risk Management Guide for Small Business (Global Risk Alliance Pty Ltd jointly with NSW Department of State and Regional Development 2005, p. 16). The respondents were asked to use the following scale to evaluate the exposure to each risk category: (1) not at all; (2) to a small extent; (3) to a moderate extent; (4) to a great extent and (5) to a very great extent. The second question which investigates the application of business risk treatment options, allowed the respondents to choose among four international standards: (a) ISO 9,000 – Quality Management (International Organization for Standardization 2008), (b) ISO 14,000 – Environmental Management (International Organization for Standardization 2004), (c) ISO 27,000 – Information Security Management (International Organization for Standardization 2005b), and (d) ISO 31,000 – Risk Management (International Organization for Standardization 2009), which, when integrated, creates a solid basis for the overall risk management. In addition, there were also ten commonly available risk treatment options from which to choose: insurance policy, contract, debenture/promissory note, credit limit, health and safety at work regulations, record of individuals and cars entering the company's premises, computer and data access protection, virus protection, staff training and advising with consultants. The respondents were asked to use the following scale to answer: (1) never; (2) rarely; (3) sometimes; (4) often; and (5) always. The purpose of the third question in the second section of the questionnaire was to obtain data on how employees participate in risk management. It was a multiple choice question with a single response. The respondents were offered to choose among three options: on a daily basis, through word of mouth and with no documentation, i.e., intuitive; by using experience, judgement and available information, i.e., experience-based; and by investigating, gathering information and consulting the parties involved, i.e., rational.

5 Findings

Most questionnaires were distributed to small enterprises in the following Counties: The City of Zagreb 62(40 %); Zagreb County 12(8 %); Krapina-Zagorje County 33 (22 %), which makes a total of 46(70 %).

Questionnaires were returned by 65 (43 %) small enterprises, five of which were not valid. The data from 60 valid questionnaires were processed and analysed. The structure of distributed and returned questionnaires according to Counties is shown in Table 3.

Table 3 The structure of distributed and returned questionnaires

	Questionnaires			
	Distributed		Returned	
County	Number	%	Number	%
City of Zagreb	62	40	25	38
Zagreb County	12	8	8	12
Krapina-Zagorje	33	22	13	20
Požega-Slavonia	1	1	1	1
Bjelovar-Bilogora	4	3	3	6
Split-Dalmatia	9	6	3	6
Istria	1	1	1	1
Međimurje	8	5	3	6
Karlovac	2	1	2	3
Koprivnica-Križevci	1	1	1	1
Varaždin	9	6	2	3
Vukovar-Syrmia	4	3	1	1
Zadar	2	1	1	1
Osijek-Baranja	1	1	1	1
Šibenik-Knin	1	1	0	0
Total	150	100	65	100

Source: Own research

Out of 60 small enterprises, 33 (55 %) small enterprises were founded 11–20 years ago, 10 (17 %) small enterprises were founded less than 5 years ago, 10 (17 %) were between 5 and 10 years old and 6 (10 %) were between 21 and 30 years old. Only one small enterprise was founded more than 30 years ago. The age of small enterprises is depicted in Fig. 1.

Questionnaires were filled out by respondents/small enterprises from various economic activities: 16 (27 %) were in wholesale and retail trade; 15 (25 %) provided business services; 10 (17 %) were in the manufacturing; 4 (7 %) were in construction, 2 (3 %) in agriculture, hunting and forestry; and 13 (22 %) from other business activities. Economic activities of small enterprises are depicted on Fig. 2.

The average number of employees at the end of 2010 ranged from 1 to 49. Out of 60 small enterprises, 38 (63 %) had between 1 and 9 employees. Half as many, at 19 (32 %), had between 10 and 29 employees and 2 (3 %) had between 30 and 39 employees. Only one small enterprise had between 40 and 49 employees. Enterprises of this size are classified as micro businesses both according to criteria from the Act on encouraging the development of SMEs and the criteria of the EU. The average number of employees at the end of 2010 is depicted in Fig. 3. Out of 60 small enterprises, 52 (87 %) had total revenues under 10 million HRK, 5 (8 %) between 10 and 30 million HRK and 3 (5 %) over 30 million HRK.

Out of 60 small enterprises, 35 (58 %) financed business activities by their own capital, 8 (13 %) by own capital and short-term loans, 9 (15 %) by own capital and long-term loans and 7 (12 %) by own capital, short-term and long-term loans. One respondent/enterprise did not answer this question. The structure of funding is depicted in Fig. 4.

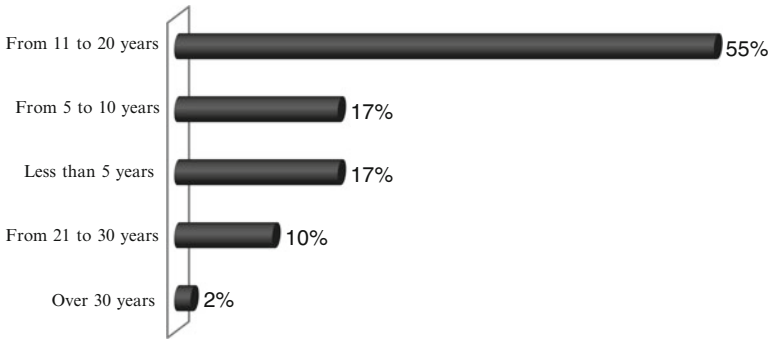

Fig. 1 Age of small enterprises (Source: Own research)

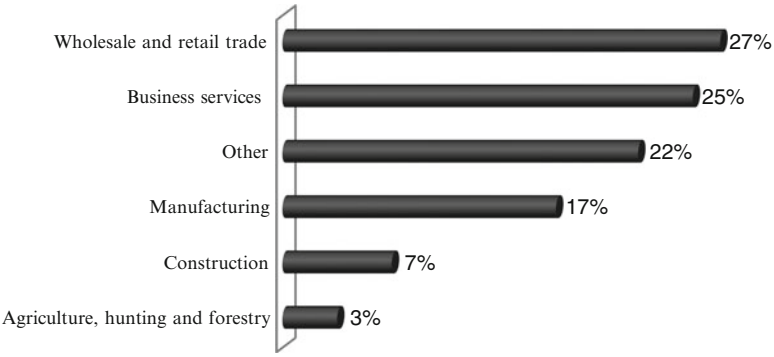

Fig. 2 Economic activities of small enterprises (Source: Own research)

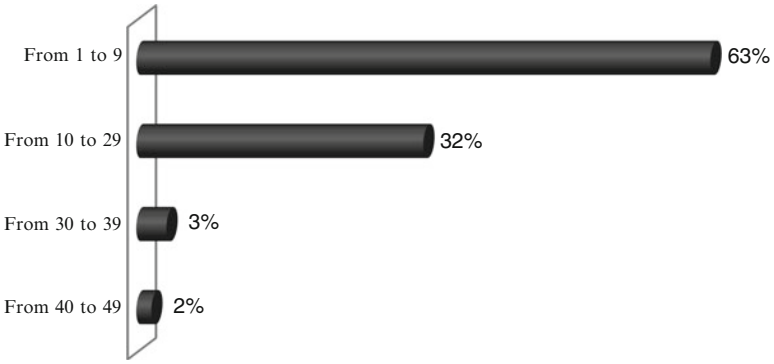

Fig. 3 The average number of employees in small enterprises (Source: Own research)

The value of long-term assets on December 31, 2010 was under 7 million HRK in 51 (85 %) small enterprises, and between 7 and 37 million HRK in 9 (15 %) of enterprises. The questionnaire was filled in by 27 (45 %) owners – managers of

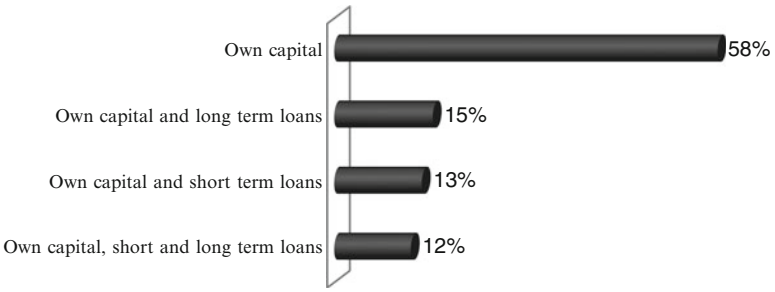

Fig. 4 The structure of funding (Source: Own research)

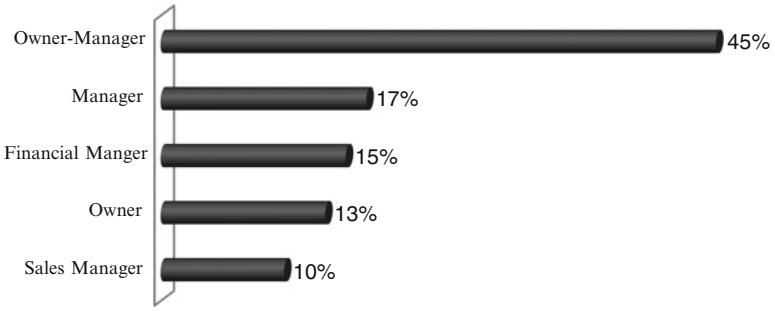

Fig. 5 Structure of job positions (Source: Own research)

small enterprises, by 9 (17 %) financial managers, 10 (15 %) general managers, 8 (13 %) business owners and by 6 (10 %) sales managers. The structure of job positions of respondents is depicted in Fig. 5.

Out of 60 respondents, 30 (50 %) of the respondents have been working in their current jobs for up to 10 years, 21 (35 %) between 10 and 20 years and 8 (13 %) for over 20 years. One respondent did not answer this question. As for educational background, 33 (55 %) of respondents had a university degree, 9 (15 %) a 2-year post-secondary school degree and 18 (30 %) a secondary-school degree.

Aggregate results of the analysis of answers in the first part of the questionnaire show that 55 % of enterprises were between 11 and 20 years old; 52 % were from the trading and service sector; 63 % had between 1 and 9 employees, i.e., were from the micro enterprises sector. In 2010 total revenues were under 10 million HRK in 87 % of enterprises; 60 % of enterprises used their own funds only; in 85 % of enterprises the value of long-term assets was under 7 million HRK; 53 % of respondents have been in their present work positions for up to 10 years; and 75 % of respondents were either owners-mangers or managers or owners, i.e., represented the top level of management.

The objective of the first question in the second section of the questionnaire was to reveal risks small enterprises are nowadays exposed to the most and will be exposed to the most in the future. For 13 risk categories measures of central tendencies for sets of data were calculated: mean, mode and median; as well as measures of variability: variance and standard deviation (Tables 4 and 5).

Table 4 Measures of central tendencies and measures of variability of risk categories – nowadays

		Nowadays				
No.	Risk category	Mean	Mode	Median	Variance	Standard deviation
1	Financial	3.775862	4	4	0.843618	0.918487
2	Management	2.793103	3	3	0.973987	0.986908
3	Legal and regulatory compliance	2.655172	2	2.5	1.528131	1.236176
4	Operational	2.672414	3	3	0.745366	0.845793
5	Commercial	3.982759	4	4	0.683908	0.826987
6	Health and safety	1.913793	1	2	0.922263	0.960345
7	Strategic	3.017241	3	3	0.824259	0.907887
8	Equipment	2.105263	2	2	0.917293	0.957754
9	Security	1.896552	1	2	0.866304	0.930754
10	Reputation	2.413793	2	2	1.159105	1.076617
11	Service delivery	2.603448	2	2	1.647005	1.283357
12	Stakeholder management	2.465517	3	2	1.060194	1.029657
13	Technology	2.368421	2	2	0.736842	0.858395

Source: Own research

Table 5 Measures of central tendencies and measures of variability of risk categories – in the future

		In the future				
No.	Risk category	Mean	Mode	Median	Variance	Standard deviation
1	Financial	3.566667	4	4	1.164972	1.079339
2	Management	2.816667	3	3	0.931921	0.965361
3	Legal and regulatory compliance	2.716667	2	2.5	1.460734	1.208608
4	Operational	2.683333	2	3	0.864124	0.929583
5	Commercial	3.830508	5	4	1.074226	1.036449
6	Health and safety	2.016667	2	2	0.965819	0.982761
7	Strategic	3.166667	3	3	1.022599	1.011236
8	Equipment	2.152542	2	2	0.821157	0.906177
9	Security	1.850000	2	2	0.909322	0.953584
10	Reputation	2.508475	2	2	1.426651	1.194425
11	Service delivery	2.550000	2	2	1.607627	1.267922
12	Stakeholder management	2.750000	3	3	1.105932	1.051633
13	Technology	2.616667	3	3	0.816667	0.903696

Source: Own research

The exposure of small enterprises to various risk categories nowadays and in the future is depicted in Fig. 6. Findings indicate that nowadays small enterprises in Croatia are the least exposed to risks related to security, health and safety at work, and equipment. On the other hand, they are the most exposed to market, financial, and to strategic risks. Small enterprises do not expect any major changes in their exposure to the observed risk categories in the future. A slight decline in their

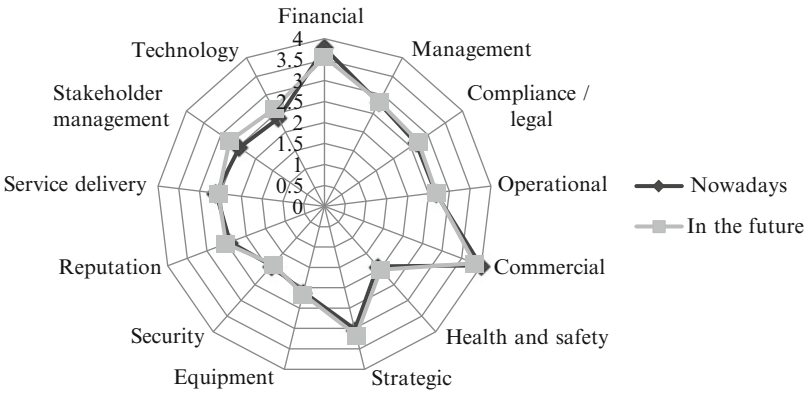

Fig. 6 Exposure to risk categories nowadays and in the future (Source: Own research)

exposure to commercial and financial risks is expected, as well as an increase in their exposure to strategic, management and technological risks.

Results of the survey on exposure of Croatian small enterprises to various risk categories nowadays and in the future can be compared with the results of several similar global surveys. Leading European companies believe that nowadays commercial, operational and production risks are the most significant and that this will remain the same in the future with possible change in their significance. CFOs and risk managers of large global corporations see problems related to labour force, production and supply chain as the most important challenges in the future. Future price fluctuations, government actions and regulation are seen as the biggest hazards by global investors. CFOs of US companies expect the most risks to be strategic management of change, capacities, incentives, human resources and frauds (Sadgrove 2005).

For Croatian small enterprises commercial, financial and strategic risks seem to be the most significant risks nowadays and in the future. It may be concluded that ranking risks is by no means an easy task. It all depends on who and how one asks questions. Also, the significance of various risks changes over time.

The purpose of the second question in the second section of the questionnaire was to reveal options which small enterprises use for treating and controlling risk in order to either reduce or eliminate negative consequences, or to reduce likelihood of an adverse occurrence. Measures of central tendencies for sets of data for 14 options were calculated: arithmetic mean; mode and median; as well as measures of variability: variance and standard deviation (Table 6).

The scores indicate that the most widely used commonly available risk treatment and control options include anti-virus software, contract, and staff training. The least widely used options were the following: record of people and cars entering the premises, credit limit, and debenture/promissory note.

The international standards such as: ISO 9,000 – Quality Management; ISO 14,000 – Environmental Management; ISO 27,000 – Information Security

Table 6 Measures of central tendencies and measures of variability of risk treatment options

No.	Risk treatment option	Mean	Mode	Median	Variance	Standard deviation
1	ISO 9000	2.241379	1	1	2.291591	1.513800
2	ISO 14000	1.706897	1	1	1.649425	1.284300
3	ISO 27000	1.844828	1	1	1.501815	1.225486
4	ISO 31000	1.758621	1	1	1.37931	1.17444
5	Insurance policy	3.400000	5	4	2.413559	1.553563
6	Contract	3.900000	4	4	1.413559	1.188932
7	Debenture/promissory note	2.600000	1	3	1.600000	1.264911
8	Credit limit	2.333333	1	2	1.785311	1.336155
9	Health and safety at work regulations	3.600000	5	4	2.549153	1.596607
10	Record of individuals and cars	2.283333	1	1	2.647175	1.627014
11	Computer and data access protection	3.616667	5	4	1.799718	1.341536
12	Anti-virus software	4.366667	5	5	1.083616	1.040969
13	Staff training	3.800000	5	4	1.416949	1.190357
14	Advising with consultants	3.633333	5	4	1.659887	1.288366

Source: Own research

Management; and ISO 31,000 – Risk Management are hardly ever used. Average use of all risk treatment and control options in all small enterprises (mean = 2.934647, mode = 2.928571, median = 2.785741, variance = 1.799362, standard deviation = 1.330460) is depicted in Fig. 7.

Implementing all treatment options is often neither possible nor cost effective. A business owner should aim to choose, prioritise and implement the most appropriate combination of risk treatment options. Authors have also tried to find out if there were any differences in the use of risk treatment and control options in relation to the enterprise's age, economic activity and structure of funding.

The comparison of the means of all risk treatment and control options and the age of small enterprises has highlighted that the use of risk treatment and control options increase with the enterprise's age. The use of all risk treatment and control options in relation to the age of the enterprise is shown in Fig. 8.

The comparison of means of all risk treatment and control options in relation to economic activity indicated that enterprises engaged in various economic activities use different risk treatment and control options. In the construction sector, ISO 9,000 – Quality Management; and ISO 14,000 – Environmental Management and Contract are used more than in other sectors. In the manufacturing sector it is more common to use safety at work regulations. In trading, debenture/promissory note and credit limit are used the most. In business services stuff training is used more than elsewhere. The implementation of all risk treatment and control options in relation to the economic activity is shown in Fig. 9.

The comparison of the means for all risk treatment and control options in relation to the structure of funding indicated that enterprises which finance their business with their own capital and long-term loans use risk treatment and control

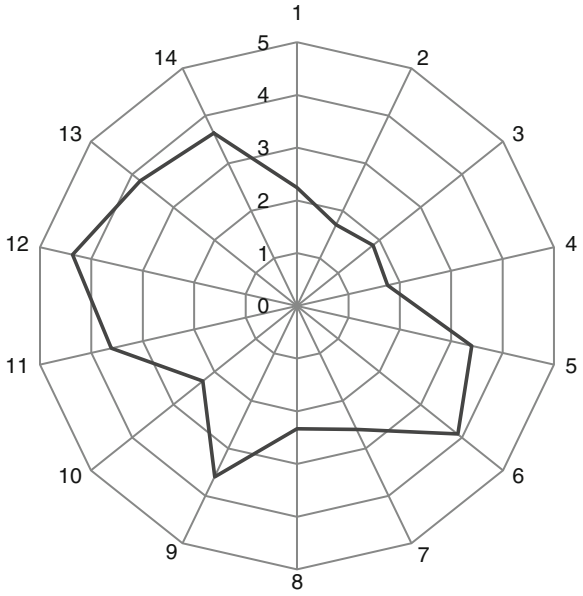

Fig. 7 The use of risk treatment and control options (Source: Own research)

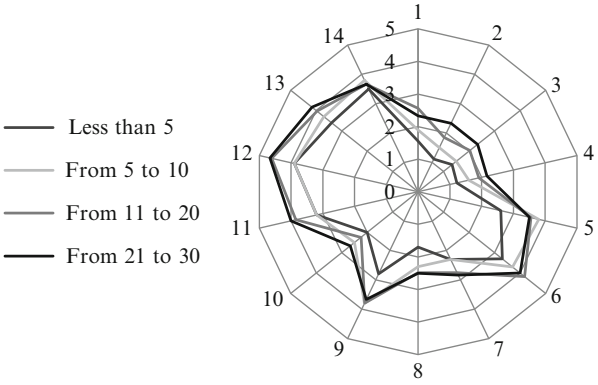

Fig. 8 The use of all risk treatment and control options related to the enterprise's age (Source: Own research)

mechanisms the most. The use of all risk treatment and control options in relation to the structure of funding is shown in Fig. 10.

The purpose of the third question in the second section of the questionnaire was to obtain data on how employees participate in risk management. It was a multiple choice question with a single response. In 55 % of small enterprises employees participate in risk management on the basis of experience, i.e., according to their prior experience, judgements and knowledge of such and similar situations. In 37 % of small enterprises employees participate in risk management intuitively, i.e., according to how they feel, on a daily basis, by word of mouth and with no documentation. Only in 8 % of small enterprises employees participate in risk management on a rational basis, i.e., based on an analytical procedures consisting of

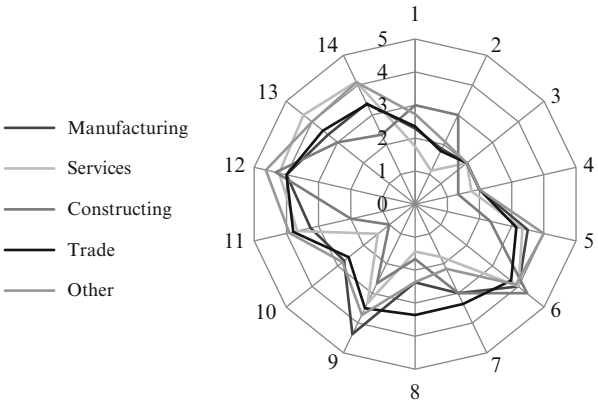

Fig. 9 The use of all risk treatment and control options related to the economic activity (Source: Own research)

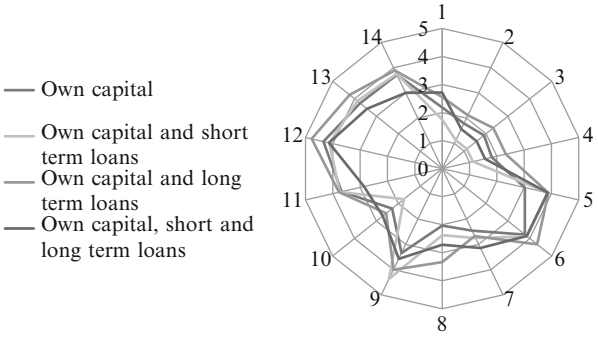

Fig. 10 The use of all risk treatment and control options in relation to the structure of funding (Source: Own research)

investigation of the problem, gathering data and consulting the parties involved. Participation of employees in risk management is shown in Fig. 11.

6 Conclusion

Small enterprises are a significant segment of the business sector both in Croatia and in the European Union. They own fewer assets compared to large enterprises and have much less capital and reserves and are, therefore, more vulnerable in terms of sustainability than large enterprises. Business risk represents the likelihood of a situation that may have a negative impact on the achievement of goals and sustainability of business. It is part of every business and its ultimate effect is financial loss. In order to control negative impacts, business risk is becoming an important aspect of managerial thinking and acting.

The main purpose of the current study was to determine the exposure of small enterprises in Croatia to several business risk categories nowadays and in the future, the use of risk treatment and control options and the participation of employees in

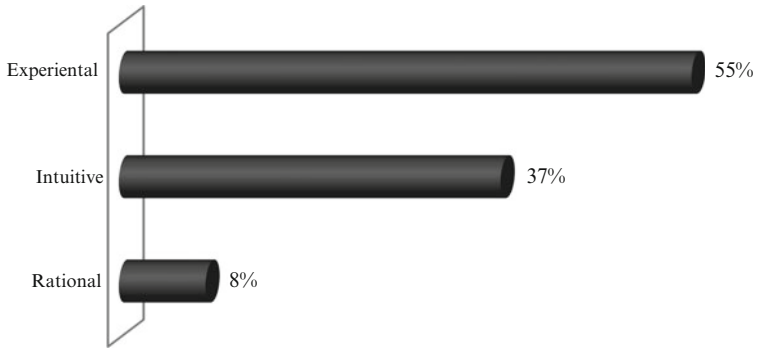

Fig. 11 Participation of employees in risk management (Source: Own research)

risk management. The results of the survey have certain limitations due to the nonprobability sampling method and the small convenient sample size, which is not an accurate representation of the population. The results cannot be generalized to the population of small enterprises in Croatia as a whole. The findings that emerge from this study are more indicative for the population of small enterprises operating in the City of Zagreb, Zagreb County and Krapina-Zagorje County, as the majority (70 %) of the questionnaires was distributed to small enterprises in this part of Croatia.

Questionnaires were sent to 150 small enterprises, of which 65 were returned, 5 being invalid. Aggregate results of the analysis of answers showed that 55 % of enterprises were between 11 and 20 years old; 52 % were from the trading and service sector; 63 % had between 1 and 9 employees, i.e., were from the micro enterprises sector. In 2010 total revenues were under 10 million HRK in 87 % of enterprise; 60 % of enterprises used their own funds only; in 85 % of enterprises the value of long-term assets was under 7 million HRK; 53 % of respondents have been in their present job positions for up to 10 years; and 75 % of respondents were either owners-mangers or managers or owners, i.e., represented the top level of management.

Small enterprises in Croatia are nowadays less exposed to security risks, health and safety at work risks and equipment related risks. They are mostly exposed to commercial, financial and strategic risks. Small enterprises do not expect any major changes in exposure to the observed categories of business risks in the future.

The most widely used and commonly available risk treatment and control options include antivirus software, contract and training of employees. The use of risk treatment and control options increase with the age of the enterprise. Enterprises from different industries use different risk treatment and control options. Risk treatment and control options are mostly used by enterprises that finance the business with their own capital and long-term loans. International standards ISO 9,000 – Quality Management; ISO 14,000 – Environmental Management; ISO 27,000 – Information Security Management; and ISO 31,000 – Risk Management are used by a very small number of enterprises. Employees in small

enterprises participate in risk management mostly on the basis of experience and intuition and to a very small extent on the basis of rationality.

In response to the findings linked to the usage of risk treatment and control options and the involvement of employees in risk management the authors recommend to the owners of small enterprises to gain risk management education in order to raise a better understanding of risk management and the role it should play within their enterprises. There are ways in which owners of small enterprises can assess and manage the risk to themselves, their businesses, their employees, their customers and their suppliers.

The results of this study can be useful in further research of the business risks issue in the small business sector in order to create a comprehensive business risk management model adjusted to small enterprises.

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