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Leading markers of risk culture in organization

Iwona Gorzen-Mitka[1]

Abstract

Among the many assumptions about taking-risk widely embraced but rarely tested is the notion that large companies risk culture are less averse to risk than risk culture in the SMEs sector. Taking a multivariate markers of organizational culture, this study seeks to identify and to explain differences between theoretical and empirical aspects of risk culture. The concept of risk culture pertains to perceptions risks and promote risk-taking in organizations. I accept the assumption that organizational culture markers (indicated mainly based on research and opinion large companies) depends on the company size. Using questionnaire data from a variety of SMEs organizations, I find that there is considerable variance in theoretical and practical risk culture markers. I postulate that culture influences corporate risk-taking according organizational size. The primary purpose of this research is to contribute to the understanding of the risk culture markers in micro small and medium size enterprises. The research questions explore the differentiation between risk culture markers indicates in academic literature and markers indicates in empirical research. Theoretical considerations is supplemented by a results of the study in 269 Polish SMEs. Additional aim of this study is, at least partially, fill a gap on the organizational culture and risk management in SMEs.

1. Introduction

One aspect of the risk management landscape is the responsibility of organizations (especially financial institution) to develop a strong, accountable and proactive risk culture. Many practitioners stresses that it's easier to talk about meeting specific risk-management requirements than it is to talk about risk culture. Organizations are subject to a diverse set of formal risk-management requirements, including internal audit, compliance, contingency planning, enterprise risk management and other activities (e.g. Hopkin 2010, Haviernikova 2016, Sarbanes-Oxley Act etc.). These functions, taken together, are formal ways to identify and contain risks to individual firms. Risk-management requirements, most notably stronger transparency and disclosure policies, are also a key source of confidence and protection for investors and customers.

While all these functions are crucial, many academic researchers and practitioners argue, that an organization's risk culture is even more important. A strong risk culture enables institutions to proactively identify and manage not only broad risks, but also risks that are specific to their business. Among the many assumptions about taking-risk widely embraced but rarely tested is the notion that large companies risk culture are less averse to risk than risk culture in the SMEs sector (Gorzeń-Mitka 2016, Skowron-Grabowska and Mesjasz-Lech 2016, Skibiński eta al. 2016, Skibiński 2016). Taking a multivariate markers of organizational culture, this study seeks to identify and to explain differences between theoretical and empirical aspects of risk culture. The concept of risk culture pertains to perceptions risks and promote risk-taking in organizations. It undoubtedly

[1]Assistant Professor of Czestochowa University of Technology, Faculty of Management, Poland.

offers a potential for a better understanding about organizational problems reference to forming the corporate culture in complexity conditions (Verbano and Venturini 2013).
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The rest of the paper is organized as follows. Section 2 (Theoretical background) describes the some remarks from literature review on risk culture. Section 3 presents methodological information and research procedure. Section 4 presents and describes the results of research. In Section 5 was indicate limitation of this study and Section 6 concludes.

2. Theoretical background - some remarks from theory and practice about risk culture

Risk culture and dealing with uncertainty are essential parts of corporate risk taking (Armstrong and Vashishtha 2012). The role of corporate risk taking is an important element in firm performance (Sipa and Smolarek 2015) and has by strategic management researchers that highlight the importance of idiosyncratic risk as a source of competitive advantages (Wieczorek-Kosmala 2017, Armstrong Vashishtha 2012, Kuběnka and Slavíček 2016, Sipa and Smolarek 2015). Additionally Gorzeń-Mitka (2015, 2016) argue that value cannot be created without risk taking. Risk management culture has become an important topic in today's more complexity business environment. The debate on risk management culture is conducted by academic researchers for nearly 30 years (Banks 2012, Gorzeń-Mitka 2016, 2017, Sheedy and Griffin 2015, Palermo et al. 2017), but now this discuss is more intensive. Research regarding risk culture are based on diverse theories such as organizational culture theory, cultural theory or other psychological approaches (Lam 2003, Liebenberg and Hoyt 2003, Moeller 2007, 19. Palermo et al. 2017). Further in the chapter, several leading trends in risk culture research are described.
In below part of paper several comments on risk culture definition was described. A

[1] Word *marker* is from French *marqueur* - a person who sets a mark on something. According Oxford English Dictionary *marker* is: I. A person who or implement which makes a mark or marks; a person who records, notes, or observes something. II. An object, etc., that serves to mark or distinguish something; an indicator. a. An object or indicator that acts as a guide to direction, position, or route, or that marks a boundary, limit, etc.; a distinctive object, feature, characteristic, etc., indicative of some quality or condition; fig. Something serving as a standard of comparison or as an indication of what may be expected; a benchmark (Oxford English Dictionary, http://www.oed.com/view/Entry/114177?redirectedFrom=marker#eid)

number of risk culture definitions it can be found in literature, but the notion of risk culture is admittedly hard to describe. Some of definitions of risk culture from the practice and academic literature points a different aspects of this concept (Gorzeń-Mitka 2012, 2015, 2016). One of the more widely accepted definitions of risk culture is proposed by Institute of Risk Management IRM. In document "Risk culture: Resources for practitioners" we can read that "risk culture is the values, beliefs, knowledge and understanding about risk, shared by a group of people with a common intended purpose, in particular the leadership and employees of an organisation" (IRM 2012). Other document proposed by Institute of International Finance define risk culture as "the norms and traditions of behaviour of individuals and of groups within an organisation that determine the way in which they identify, understand, discuss, and act on the risks the organisation confronts and the risks it takes"(IIF 2009). Both documents indicate the markers (variables) that shape the effectiveness of the risk management culture in an organization. In next KPMG (2010) describe this concept as…the system of values and behaviors present throughout an organisation that shape risk decisions. Risk culture influences the decisions of management and employees, even if they are not consciously weighing risks and benefits. In turn, Basel Committee (2011) describe risk culture as ….. the combined set of individual and corporate values, attitudes, competencies and behaviour that determine a firm's commitment to and style of operational risk management. Finnaly, according CRO Forum (2015), risk culture is a shared philosophy of managing uncertainty that is embedded within a entity. Already a casual overview of the risk culture definitions indicates that most of the approaches to describe and formalize risk culture build on psychological, behavioral and organizational aspects.

IRM (2012) identified eight aspects of the risk culture of an organisation that could usefully be addressed. This criteria it was used by author to identification of markers of risk culture in SMEs. IRM criteria is presented in Table 1. The study used a markers concerning on main risk culture areas by The IRM Risk Culture Aspects Model (IRM 2012) published in the *Risk culture: Resources for practitioners*.

Table 1. The IRM Risk Culture Aspects Model

Main area	Main aspects in area	Discription
Tone at the top	Risk Leadership - clarity of direction	Senior management set clear and consistent expectations for managing risks Leaders role model risk management thinking and actively discuss tolerance to risk issues
	Responding to bad news - welcoming disclosure	Senior management actively seek out information about risk events Those that are open and honest about risks are recognised
Governance	Risk Governance - taking accountability	Management are clear about their accountability for managing business risks Role descriptions and targets include risk accountabilities
	Risk Transparency - risk information flowing	Timely communication of risk information across the organisation Risk events are seen as an opportunity to learn
Competency	Risk Resources - empowered risk function	The risk function has a defined remit and has the support of leaders It is able to challenge how risks are managed
	Risk Competence - embedded risk skills	A structure of risk champions support those managing risks Training programmes are in place for all staff

Decision Making	Risk Decisions - informed risk decisions	Leaders seek out risk information in supporting decisions The business's willingness to take on risks is understood and communicated
	Rewarding appropriate risk taking	Performance management linked to risk taking Leaders are supportive of those actively seeking to understand and manage risks

Source: IRM 2012

Risk culture is presented from ERM perspective. One of unique research, where conducted a comprehensive survey to get a direct measure of ERM program adoption is study of Altuntas and Berry-Stölzle (2011).This research analyzes factors that influence a company's decision tostart an ERM program. The result of the study was to identify the few relationships. First relationship is positively related with affiliated companies are capital allocation methods, performance measurement mechanisms, the aggregation of risk and the implementation of a risk management culture. Second - positively related with size and sustainable performance are incentive contracts and positively related with the total amount of taxes paid relative to firm assets is implementation of a risk management culture. Study indicates also negatively relationship - its related with past performance are performance measurement mechanisms, incentive contracts, the implementation of a risk management culture and audit. Additionally negatively related with lagged changes in performance are performance measurement mechanisms, the aggregation of risk, ERM adoption and the implementation of a risk management culture. In the end, study indicates that managers are more likely to adopt external ERM components than internal.

Risk management culture is important factor determining success of ERM process (Gorzeń-Mitka 2012, 2016). According Moeller (2007) the goal of building a risk management culture is to influence employees and other stakeholders to almost automatically consider risks in their decisions. Interesting conclusions about the determinants of risk management process provides study by Gatzert and Martin (2013).The results of their comparative assessment of the seven studies regarding the determinants of an ERM system are partly ambiguous. Regarding the determinants of ERM their findings show that while some determinants (assets' opacity, growth opportunities) are not significantly related to the development of an ERM system or are ambiguous regarding the direction (financial leverage), the company size and the level of institutional ownership are, in particular, identified in most studies as significant factors that positively affect the implementation of an ERM system.

The result presented in earlier Author's publications (Gorzeń-Mitka 2015, 2016, 2017) regarding a low awareness of the process of risk management and the factors determining the efficiency of its implementation among the entrepreneurs from the SME sector also refer to risk management culture. Among the specified areas, the most recognizedare: risk identification (this confirms the trends shown in detail in Gorzeń-Mitka (2013),organizational culture, and the need for defining the rules and for transparency of procedures and internal control mechanisms. The least recognized aspects include risk registers, which seems puzzling in the context of the replies concerning risk analysis. Entrepreneurs declare conducing risk analyses, which, after all, require a register of risks. This disparity is another confirmation of the low level of actual

(not declared) knowledge of risk management among the respondents. The greatest awareness of the determinants of the risk management process (i.e. the lowest percentage answering "no opinion") was demonstrated in relation to the organisational culture and to having defined roles, rules and procedures (Gorzeń-Mitka 2016).
Additionally, author points, that the attitude towards risk is a key element in shaping the risk management culture in an organization, and it's possible to use a bricolage to improve these processes (Gorzeń-Mitka 2017).
Taking account of the above, it appears advisable to commence research on the link between company size and the risk management culture. Further in the paper, the main conclusions from the author's own research on the relation between company size and risk culture markers.

3. Leading markers of risk culture in corporate – methodological information

The main objective of this quantitative research was to find out whether among companies selected by number of employees (company size) differences can be observed in assessment the leading markers of risk aware culture. During the study, identification of leading markers of risk culture in corporate, was performed in polish SMEs enterprises. The study was conducted in the March - July of 2015 on a sample of 269 companies categorized, according to the number of employees, as small and medium enterprises. The survey questionnaire was addressed to both manufacturing and service enterprises. The research sample was selected using the method of purposive (non-probability) sampling. A questionnaire consisting of 22 semi-open and closed dichotomous questions, scales of responses (nominal and rank scale), and demographics. In this study the company size by number of employees is control variable adopted. The main characteristics of the study sample are presented in Table 1. Small businesses dominated the sample, accounting for 59% of all surveyed companies.

Table 1. Characteristic of the study sample by company size and main business activity group - frequency table

FEATURES		**Frequency**	**Percent**
Company size	micro -enterprise (1-9 employees)	57	21,2
	small -enterprise (10-49 employees)	159	58,9
	medium-enterprise (50-249 employees)	53	20,8
Main business activity group	manufacturing	76	28,3
	trade	28	19,6
	construction	81	10,4
	transport and storage	23	8,6
	accommodation and food service	19	7,1
	real estate	12	4,5
	financial and insurance service	11	4,1
	mixed activity	19	7,1
	other areas	76	10,5
Total	N	269	
	%	100,0%	

Source: own study

In this study, I concentrate on main variables referring to a risk culture. On the basis of the literature review, I identified eight variables that might be markers to the assessment of risk aware culture in an organization. The research model (Figure 1) thus sets up eight hypotheses for the eight independent variables relate to the markers of risk-aware culture, with perceived company size as the dependent variable. The following research hypothesis were proposed, with the main aim of the project in mind:
$H_0$1 – perception of risk leadership as markers of risk culture is significantly differs by company size;
$H_1$1 – perception of risk leadership as markers of risk culture isn't significantly differs by company size;
$H_0$2 – perception of responding to bad news as markers of risk culture is significantly differs by company size;
$H_1$2 – perception of responding to bad news as markers of risk culture isn't significantly differs by company size;
$H_0$3 – perception of risk governance as markers of risk culture is significantly differs by company size;
$H_1$3 – perception of risk governance as markers of risk culture isn't significantly differs by company size;
$H_0$4 – perception of risk transparency as markers of risk culture is significantly differs by company size;
$H_1$4 – perception of risk transparency as markers of risk culture isn't significantly differs by company size;
$H_0$5 – perception of risk resources as markers of risk culture is significantly differs by company size;
$H_1$5 – perception of risk resources as markers of risk culture isn't significantly differs by company size;
$H_0$6 – perception of risk competence as markers of risk culture is significantly differs by company size;
$H_1$6 – perception of risk competence as markers of risk culture isn't significantly differs by company size;
$H_0$7 – perception of risk decisions as markers of risk culture is significantly differs by company size;
$H_1$7 – perception of risk decisions as markers of risk culture isn't significantly differs by company size;
$H_0$8 – perception of rewarding appropriate risk taking as markers of risk culture is significantly differs by company size;
$H_1$8 – perception of rewarding appropriate risk taking as markers of risk culture isn't significantly differs by company size.
All numbers and percentages are produced with IBM SPSS 19. Kendall's tau and rank correlation coefficient test (as measures of non-parametric rank correlations) is the analysis tool for testing the hypothesis. It was assumed that a probability value at the level of $p<0,05$ is statistically significant, whereas $p<0,01$ is statistically highly significant. Coefficient takes value from -1 to 1. If the value obtained is closer to $|1|$ the strength of dependence between the assessed variables is higher. Based on the J.Guilford (1967) classification the explanation of correlation coefficients: $|r|=0$- lack dependence,

0,0<|r|≤0,1 - insignificant (negligible) dependence, 0,1<|r|≤0,3 - weak dependence, 0,3<|r|≤0,5 - medium dependence, 0,5<|r|≤0,7 - strong dependence, 0,7<|r|≤0,9 - very strong dependence, 0,9<|r|<1,0 - almost full dependence, |r|=1 - full dependence. The stated hypothesis was tested on p value 0.05.

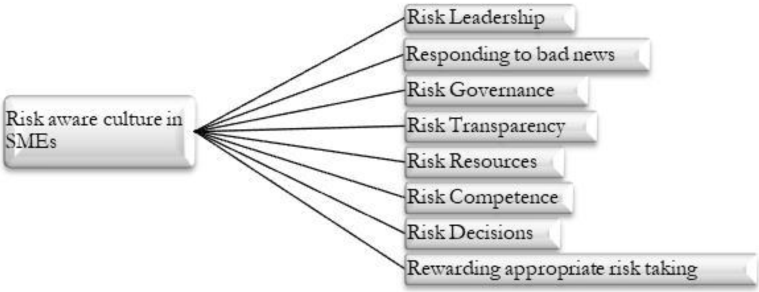

Figure 1. Markers of risk aware culture in SMEs - research model
Source: own study

4. Leading markers of risk culture in corporate - results of research

Leading markers of risk culture in corporate was selected based on literature review. Results of the empirical research is presented below.

Table 3. Perception of markers of risk culture vs. company size (Kendall's tau rank correlation coefficient)

Markers of risk culture/ Components of risk culture	Verification of the hypothesis	Kendall's tau rank correlation coefficient Tau	p
		Company size	
Perception of risk leadership as markers of risk culture. (H1)	+	**0,134***	**0,032**
Perception of responding to bad news as markers of risk culture. (H2)	-	0,463	0.089
Perception of risk governance as markers of risk culture. (H3)	+	**0.126***	**0.043**
Perception of risk transparency as markers of risk culture. (H4)	+	**0,216***	**0,002**
Perception of risk resources as markers of risk culture. (H5)	-	0,094	0,109
Perception of risk competence as markers of risk culture. (H6)	+	**0,127***	**0,034**
Perception of risk decisions as markers of risk culture. (H7)	-	-0,029	0,343
Perception of rewarding appropriate risk taking as markers of risk culture. (H8)	-	0,024	0,371

** Correlation is significant at the level of 0.05 (single sided).*
Source: own study

Basing on the classification of I.P. Guilford (1967) can be reported a weak correlation between the results obtained with the four markers. In light of the present study, it can be concluded that perception of markers of risk culture depends on company size only in risk leadership, risk governance, risk transparency and risk competence areas. Results model is presented below.

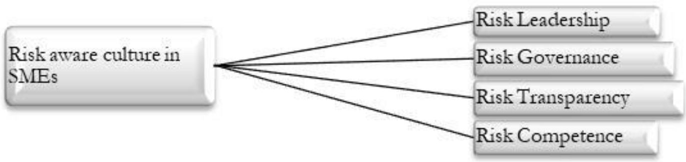

Figure 2. Markers of risk aware culture in SMEs significantly differs by company size - results model
Source: own study

The results in table 3 allow approval of selected hypotheses. In light of the present study, it can be concluded that perception of markers of risk culture in a company depends on a company size perspective in selected areas.
The markers of risk culture featured in the study allowed for the identification of several connections from company size perspective. Of the eight hypotheses in the case of four the results have confirmed significant statistical relationships between a risk culture and the perception of risk culture markers by company owner(s) or the person responsible for risk management.
The following relationships have been shown:
– the risk leadership understood as: clarity of direction in understood the risk, set clear and consistent expectations for managing risks, thinking and actively discuss tolerance to risk issues, enable effective creating a risk aware company culture. The company size affect perception of leadership importance in develop of risk aware culture in organization. (H1),
– the risk governance understood as: clear taking on Management Board accountability for managing business risks and clear descriptions about role and targets include risk accountabilities enable effective creating a risk aware company culture. The company size affect perception of risk governance importance in develop of risk aware culture in organization. (H3),
– the risk transparency understood as: flowing and timely communication of risk information across the organisation and perception of risk events as an opportunity to learn enable effective creating a risk aware company culture. The company size affect perception of risk transparency importance in develop of risk aware culture in organization. (H4),
– the risk competence understood as: shaping risk skills, creating a structure of risk champions support those managing risks and availability to training programs on risk for all staff, enable effective creating a risk aware company culture. The company size affect perception of risk competence importance in develop of risk aware culture in organization (H6).

5. Limitation of this study

While this study contributes to both literature, some limitations open up avenues for further research. First, risk culture is undoubtedly a multidimensional concept. In this study are investigated only leading markers of risk culture in SMEs enterprises opinion. There are many other areas of challenges in risk culture and future research should investigate the relationships between other dimensions of this concept. Second, this research aimed to identify selected challenges in an exploratory way. Future research could extend this research concept here identified complementing it with dedicated areas such as business aspects. Finally, based on this study, future research could use this findings in management practice.

6. Conclusions

Risk culture is a new concept that emerged as a result of growth of risk and uncertainty scale and the evolution of its management and it may to say that this area undoubtedly constitute great challenges to modern entities. A firm's risk culture significantly improves its capability to take strategic risk decisions and deliver business performance targets. The analysis provides a starting point for understanding which markers of risk culture is important for SMEs companies. My analysis, as a snapshot of the current linkages between risk culture and SMEs knowledge on risk management culture, provides a starting point for further research and analysis (especially used quantitative data).

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