



## Enterprise Risk Management Applications at Bist-Istanbul Non-Financial Companies

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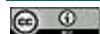
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### Abstract

Turkey has made great strides towards increasing international competitiveness and aims to adapt to the international risk management platforms to further its national economic policy. Risk management would serve to the corporates to run their business in optimum level, to reduce the chance of the hazards, to protect the resources and to improve the image. The purpose of this study is to investigate the inherent risks plaguing non-financial companies in Turkey and the risk management behavior and insurance approach undertaken in order to combat these important risks. The analysis consists of survey questions generated via appropriate risk management literature and reports from the Federation of European Risk Management Associations and Risk & Insurance Management Society. The sample consisted of 59 high level Risk Managers from publicly available non-financial firms on BIST, 20 of which were included under top 100 of ISO 500 by 2017.

**Keywords:** Risk management; Enterprise risk management; BIST; Non-financial firms.



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### 1. Introduction

Risk management has been improving significantly in recent years, especially with the emergence of new risks due to the increasingly complex business environment or the increasing diversity of investors and shareholders. From this evolution, entities should adapt very quickly to these changes. It is also possible to minimize the risks of "agency" that may arise between shareholders and management, due to effective management of corporate governance. Standards, frameworks and guidelines are modified periodically following to the new research or innovative practices. Recently ISO has updated its risk management standard 31000 and COSO has published new principles, 'ERM – Integrating Strategy and Performance', using the helix shape instead of its cube, which recognizes the importance of technology and entity performance. It is enhanced the focus on the value, how entities create, preserve, and realize value (COSO, 2018).

In the latest WEF (World Economic Forum), the VUCA (volatile, uncertainty, complexity, ambiguity) environment has been underlined. WEF states that the current competitive landscape can be defined by one word: 'disruption'. Moreover, WEF argues that the ideas of incremental progress, continuous improvement, and process optimizations do not work anymore. By acknowledging that these practices are necessary, but are insufficient the WEF supports the need for seeking greater transparency and accountability for managing the impact of risk, while also critically evaluating leadership ability to embrace opportunities. Even success can bring with it additional downside risk, such as the risk of not being able to fulfill unexpectedly high demand or maintain expected business momentum. Organizations and board members need to be more adaptive to change. They need to think strategically about how to manage the increasing volatility, uncertainty, complexity and ambiguity of the world (IRM Report and Institute report, 2018).

To follow the progress of the companies in Turkey, taking into practice what they thought would be helpful to themselves for international competition. As a state, some regulations can be made to make this happen, and even made compulsory by legislation. Companies open to the stock market in the US and even other foreign companies working with these companies are subject to the SOX audit, which also includes the risk management process. Besides ISO 31000, Risk Management (RM) standard, In ISO 9001:2015, risk management is being added with focus on risk-based thinking. The main goal of this quality management system is for an organization to achieve conformity and customer satisfaction. In ISO 9001:2015 a risk-based thinking is used to achieve this goal. Similarly, in Turkey as well as finance and insurance companies are obliged to comply with the legislation on the adapted risk management abroad. For the real sector, there is no statutory obligation imposed by law except for the establishment of a committee for the early detection of risks for companies open to the stock exchange, the preparation of regular reports by this committee and the regulation of an independent trial thereof. As there is no regulation in this application, how the risk management is done is left to the company. Moreover, the creation of regulations is in fact, less common standards of the real sector and the financial sector. Thus, the purpose of this study is to analyze the current risk management practices in Turkey for non-financial companies different in comparison to the international platform. Faced with numerous difficulties as mentioned above, we hope to shed light on the current risk and insurance management practice in Turkey. The sample only focuses non financial companies from the Istanbul stock

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exchange, as the financial and insurance companies are obliged to apply RM. The study is structured as follows. The first section of the paper presents

## 2. Literature Review

There have been some measures to observe if there is a relationship between traditional risk management and firm financial results. Firstly, in 1958, Modigliani and Miller concluded that there is no effect of traditional risk management to the results of firms under perfect competition market since the investors have the same knowledge and may mitigate the risks equally ([Sprcic, 2013](#)). Another view argues that firms should not engage in any effort to manage idiosyncratic risk. According to CAPM (Capital Asset Pricing Model), developed by [Sharpe \(1964\)](#), firm market value is affected only the firms who bear with systematic risks rather than idiosyncratic. An implication of CAPM is that firms should not use risk management to reduce firm specific risks because investors can eliminate firm idiosyncratic risks through diversification. [Allayannis and Weston \(2001\)](#), concluded that non financial firms that use exchange rate hedging are valued about 5% higher versus the ones that are not.

[Gamba and Triantis \(2013\)](#), analyzed three important risk management mechanisms in a dynamic setting, concluded that risk management contributes very little, but may serve mostly to the liquidity management. As stated in Beasley's study (2008), there are results at firm-specific. Namely, for non financial firms, they find that the announcement of enterprise risk management to the market is positively affecting the firm size and volatility of earnings, but negatively the leverage and the ratio of cash to liabilities. Meanwhile, the financial firms are more driven by other demands of risk management, such as regulators. [Jin and Jorion \(2006\)](#), did a research at US oil and gaz industry and concluded that hedging reduces the sensitivity of oil prices but does not change the firm value. [Hoyt and Liebenberg \(2011\)](#), found a positive relationship between firm value and the appointment of a CRO. [Gordon \(2009\)](#), found that the relationship between ERM and firm performance depended on how well ERM implementation was matched with firm-specific factors. [Sprcic \(2013\)](#) did a research in Croatia for non financial large firms, and showed that efficient enterprise risk management can influence company value drivers positively ([Sprcic, 2013](#)). According to the Journal of accounting paper by Mc Shane, Nair and Rustambekov, the firm value is not affected or slightly affected by the implementation of ERM, where S&P datas are used.

Similarly, according to an empirical study done by [Senol and Karaca \(2017\)](#), for measuring the effect of enterprise risk management on firm performance, no evidence has been found (The sample used for this survey is from BİST and within 500 most industrialized company in Turkey, which represents 33 firms for 7 years (2009-2015), with 231 observations). In order to see clearly the benefits of enterprise risk management, the beginning stage the top management engagement should not be for the formality and the organization culture should really adapt it at their mind and processes. [Hafizuddin et al. \(2017\)](#), could not conclude any evidence about the effect of ERM to the financials of the firms from Malaysian technological industry following to their research, but states that these effects may be seen in the long run where ERM applications are still young in the country.

From the Turkish Accounting Journal (2018), Karaca, Senol and Korkmaz state that there is a correlation between Corporate Governance and ERM, following to the study for 231 BIST firms operated between 2009 and 2015. [Cohen et al. \(2017\)](#), showed out that the quality of financial reporting increases thanks to the effective ERM processes, concluding to a research done for 11 companies from US, with 32 participants. The result of a doctoral dissertation about the BİST Industrial companies was that the operational risks were less important than the financial risk management and mostly managed by the financial affairs due to the fact that there was no legal obligation at that time ([Çakmakçı, 2010](#)). It has been stated that institutional risk management is increasing and adopting the performances of organizations with its applications ([Akçakanat, 2012](#)). At another study, it was concluded that the presence of big four audit firms, profitability, company size, and the rate of financial leverage are the determinants for enterprise risk management ([Gacar, 2016](#)). At his PhD thesis, Topçu proposed an enterprise risk management model for the aviation industry; firstly, he concluded that this is applied insufficiently for non-financial companies in Turkey and the commodity price risk is more important in the real sector and should be managed; The exchange rate risk should be brought to the forefront and managed by SMEs or large-scale companies with globalization; In emerging economies where financial cultures are weak, the interest rate risk is less, but large-scale, The credit risk is that a rating model that the non-finance sector can apply against the bank is important for business continuity; It has been determined that semicomunal legislation requires non-financial sectors to reform risk management more effectively ([Topçu, 2010](#)). In another study, there has been found no relationship between corporate value and corporate risk management presence between 2008 and 2013. In addition, a questionnaire on corporate risk management was prepared and no clear findings were found since the data were not sufficient ([Farhan and Anaba, 2016](#)). Karacar has conducted a survey for the Field Study in the context of Risk Management for the Tender Process in Turkish Construction Sector. Accordingly, risk management organization that does the construction sector in Turkey, the biggest political risk seen in the sector, after it has determined that the financial ([Karacar, 2000](#)).

Under the heading of Risk-Focused Internal Audit and ISE Implementation, from a research of Kocaeli University, a survey was conducted by [Kishali and Pehlivanlı \(2006\)](#) with a questionnaire which consists of 20 questions in three parts in total: company general information, internal audit information and finally risk assessment and risk-focused internal. It is seen that the remaining 33.3% of 66.7% of the respondents did not use the risk appraisal activities consisting of the identification, classification and measurement of the risks according to the information obtained from 36 of the IMKB 100 companies. We do not know how much is derived from the real sector since there are also financial companies in the sample ([Kishali and Pehlivanlı, 2006](#)). [Güneş and Teker \(2010\)](#), conducted a survey on enterprise risk management awareness in the Turkish Energy Sector, 25 companies from 45 companies selected from ISO 500 were able to participate. In the 13 out of 25 firms, corporate risk management

practice has just begun, or is still in full or in part resident. Even if it is concluded that 29% of energy companies (7 firms) are interested in corporate risk management, it can't be said that the remaining 71% (18 firms) are serious about this issue. ERM is applied in 72% (13 firms) of 18 informed firms (Güneş and Teker, 2010). Karaca *et al.* (2018), conducted a study for 231 non-financial companies of BIST for 2009-2015 period and they concluded corporate governance and ERM influences positively each other (Karaca *et al.*, 2018). Meanwhile, at another study for still 33 non-financial companies of BIST for 2009-2015 period, no relationship has been found between the presence of ERM and the firm value (Şenol and Karaca, 2017). Following to another survey, Cakmakçı did a survey for industrial BIST companies, and had the result that they are at the beginning stage especially because of the absence of the systems and regulations (Çakmakçı, 2010).

From these studies, it's seen that different results are obtained and the ones from Turkey are not too many. We would like to contribute to this by testing the following hypothesis:

**H1:** *The level of current risk management practices for non-financial companies in Turkey in the international platform.*

### 3. Methodology

In the following sections a scale was developed in order to afford and detailed review of risk management behavior of firms. The survey was tested for validity and a pilot test was employed to readjust information. Following the development of the questions, the results were analyzed individually via use of descriptive statistics; high-low frequency analysis, percentage and cross-tabulation and general frequency analysis. Moreover, related questions were combined and analyzed together via cross-tabulation.

The survey questions were generated via analyzing the related risk management literature and incorporating elements from the international "European Risk and Insurance Report" and "Federation of European Risk Management Association Survey" and "Risk Management Society Survey". The survey form was based on research results reports of FERMA and RIMS's recent risk management questionnaires. Articles, papers, internet resources related to the topic were examined and professional opinions were prepared. During the preparation of questionnaires, opinions were taken by presenting them to specialist academicians and some professions. The combination of these questions were listed under our questionnaire. The questions were translated from English to Turkish and the understandability of the questions were tested by employing the use of a native speaker. The native speaker was asked to translate the questions and then the results were translated back again into English. This double translation method allowed us to determine whether or not the questions were comprehensible to the reader. The results of this translation were then sent to academics in the field and the questions were modified according to their feedback. Finally, a pilot test was conducted on the study. The study was emailed to several risk managers and the results were later discussed over the phone. The final version of the scale was finalized by making necessary arrangements on the questionnaires. The questionnaire items were collected from the scale and the results were checked for validity. For this purpose, the questionnaire was checked and corrected by academics in the field.

The questionnaire consists of three parts. In the first part, the characteristics, responsibilities and activities of the administrators responsible for the risk are examined. In the second part, the methods of risk management and the risk issues that have priority in the recent period have been tried to be understood. In the third part, information about insurance usage and methods for transferring the risks was asked.

The variables of the study consist of the following elements, descriptive information regarding respondents, such as: gender, age, sector of employment, monthly income, job, reporting to whom, risk management responsibilities, actives, communication between top management, relation with other departments, firm turnover, number of employees, risk management level and approaches employed, risk mapping practices, risk quality existence, use of risk IT systems, ERP risk management programs, ERP restructuring, captive insurance existence, strategies among hard to insure risks and game plans, importance and level of risk, risk mitigation levels, future risk existence, emerging risk management approaches, existence of risk appetite reports, risk management performance evaluation, insurance management effecting factors, insurance limit evaluation, policy renewal practices, loss control/compensation claims, IT data usage and purchase limit selection. Depending on the type of the question and collected data, each variable was individually analyzed. The collected information is exploratory in nature and aims to shed light on the current application levels of the issues included under the questionnaire.

#### 3.1. Data and Sampling

The frameworks of risk management related to banking and insurance are clearly defined by the Basel and Solvency rules which are valid also in Turkey. For the remaining non-financial sectors, the risks are more complex and diverse. Related risk management platform in Turkey KRYD (Enterprise Risk Management Association) is operating about the matter. Some companies that are not included in this platform may also be subject to evaluation. As of May 2018, there are a total of 514 companies in BIST, but there are 300 companies that are subject to indexation. 80 of them are in the financial endowment and financial and insurance companies are examined and supervised according to their own legislation on risk management. The remaining 220 real sector companies include industry, telecommunication and service sectors. If we eliminate the multiple share type among them, the remaining number of the sample becomes 207. The final version of the sample consisted of the risk managers from public firms and had an observation size of 59. The overall response rate was 29%. The sample of firms consists of the highest industrialized companies in Turkey and 20 respondents are included under ISO 500 top 100 by 2017. The response obtained represents 60,3% of the total assets of the sample. The final version of the survey was sent to the full list of publicly available firms on BIST. The survey was prepared and sent to the respondents online via Survey Monkey.

The descriptive statistics regarding the sample is presented below. The survey was conducted on 59 (N). "Risk Managers" across a period of 12 weeks. Respondents were identified employing use of the snowballing sample collection technique and the survey was sent over Survey Monkey.

## 4. Analysis and Findings

As stated above the survey was conducted in order to shed light on the current Turkish applications of risk management in comparison to the international platform. Thus, the following section is analyzed as follows, each individual question is statistically analyzed depending on the type of data employed. The statistical methods are as follows; high-low frequency analysis, percentage and cross-tabulation and general frequency analysis. Moreover, related questions were combined and analyzed together via cross-tabulation. Each question, their analysis and its contribution to analyzing the hypothesis is shown as below.

### 4.1. Characteristics, Responsibilities and Activities of the Administrators Responsible for the Risk

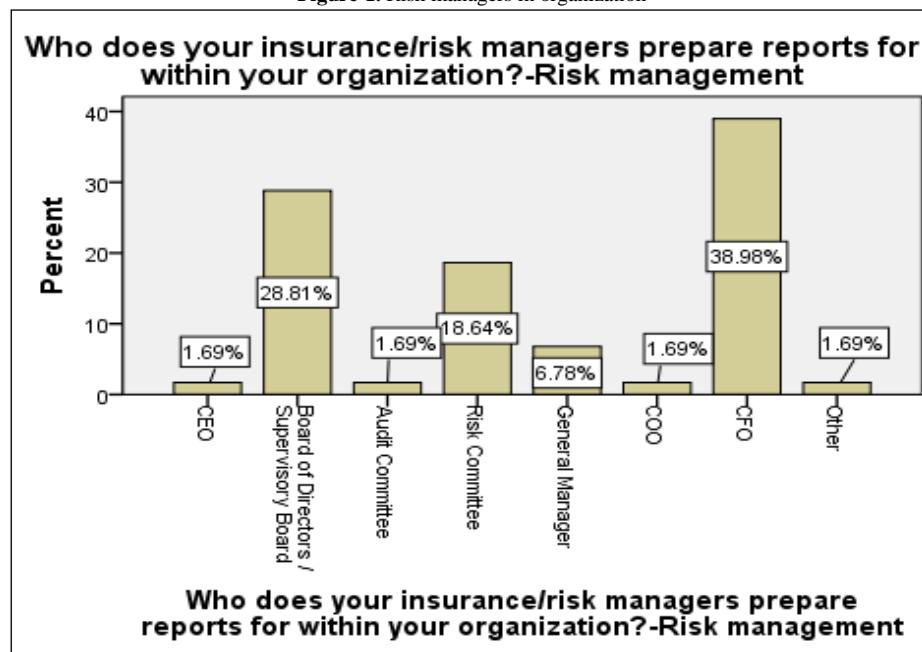
Table shows that 76.27% (45) of the 59 Risk Managers were Male, while 23.73% (14) were female. FERMA survey conducted in European companies, shows very similar result (27% female). A large percentage (62.71%) of the respondents were aged between 36 to 45, while 23.73% and 13.56% of the Risk Managers were aged between 46 to 55 and 31 to 35, respectively.

**Table-1.** Age and Gender Crosstabulation

			Age			Total	
			31-35	36-45	46-55		
Gender	Female	Count	1	10	3	14	
		% within Gender	7.1%	71.4%	21.4%	100.0%	
		% within Age	12.5%	27.0%	21.4%	23.7%	
	Male	Count	7	27	11	45	
		% within Gender	15.6%	60.0%	24.4%	100.0%	
		% within Age	87.5%	73.0%	78.6%	76.3%	
Total		Count	8	37	14	59	
		% within Gender	13.6%	62.7%	23.7%	100.0%	
		% within Age	100.0%	100.0%	100.0%	100.0%	

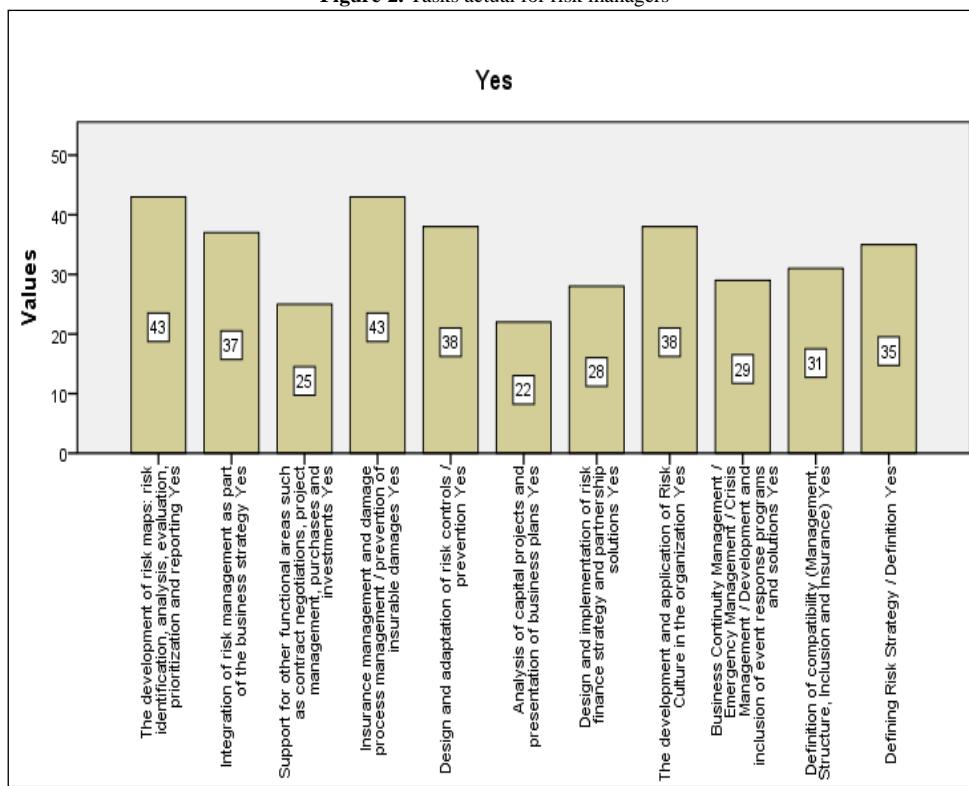
Risk managers have increasing access to top decision makers. 38.98% of respondents are preparing reports for CFO's, 28.81% prepare reports for the Board of Directors/Supervisory Boards and 18.64% report to the risk committee. Meanwhile, similar to the risk managers, insurance managers prepare reports for CFO's (47.46%), Board of Directors/Supervisory Boards (20.34%) and the General Managers (10.17%).

**Figure-1.** Risk managers in organization

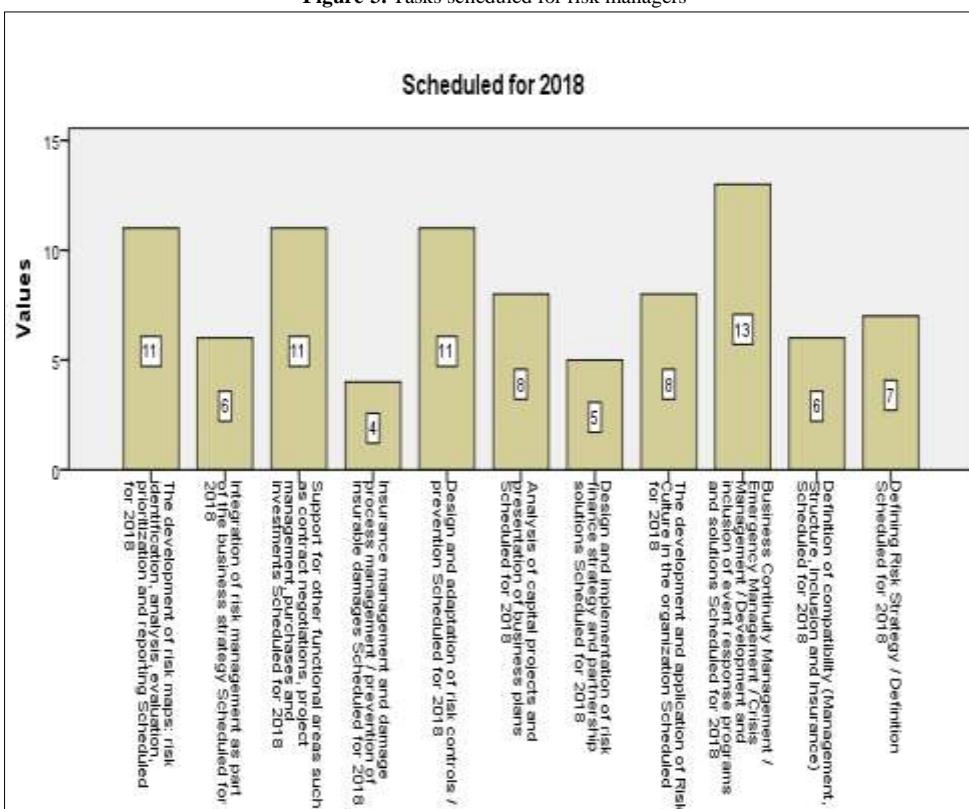


It's not surprising for understanding the recent of CFO's that in a global survey of close to 1,500 C-suite executives conducted in the summer of 2011 by Harvard Business Review Analytic Services, more than two-thirds of respondents said that risk management had become somewhat or significantly more important over the previous three years. In a March 2012 survey of finance executives by CFO magazine, 72 percent of respondents said their

companies had increased the amount of time and resources devoted to risk management over the previous two years, with 23 percent calling the increase “significant” (Pidun *et al.*, 2017). The highest acknowledged tasks for risk managers are the development of risk maps (43), insurance management and damage process management / prevention of insurable damages (43). While the lowest is analysis of capital projects and presentation of business plans at 22 firms. Most of the tasks listed under the survey are within the responsibilities of the Risk Management and Insurance leader.

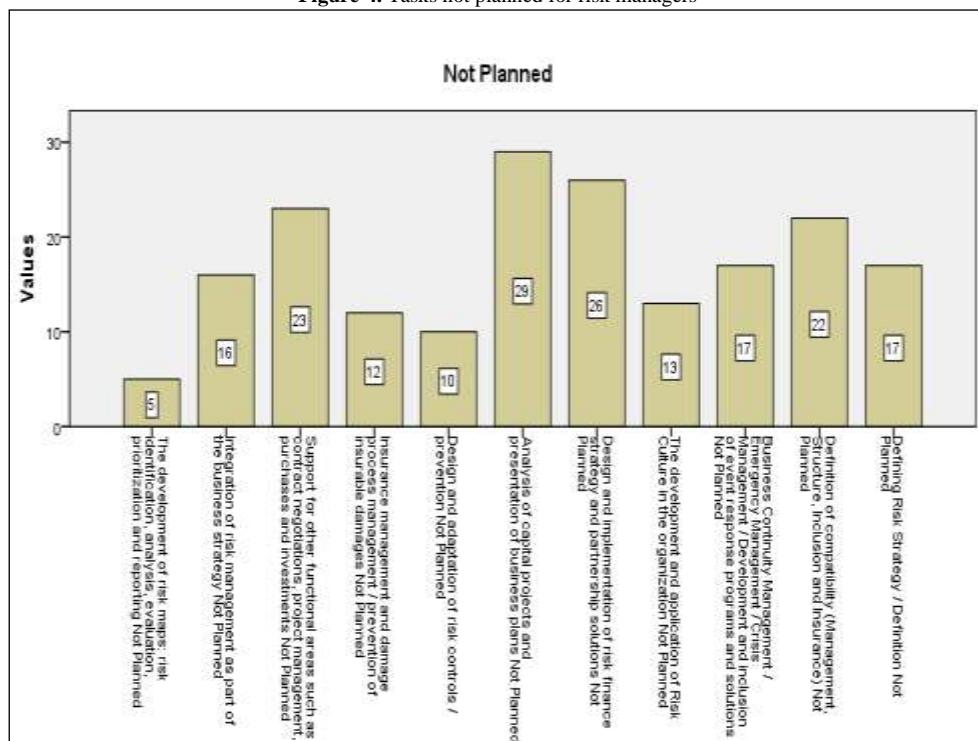
**Figure-2.** Tasks actual for risk managers

The highest task scheduled for inclusion under the responsibilities of the Risk Management and Insurance leader for 2018 is business continuity management / emergency management / crisis management / development and inclusion of event response programs and solutions (13).

**Figure-3.** Tasks scheduled for risk managers

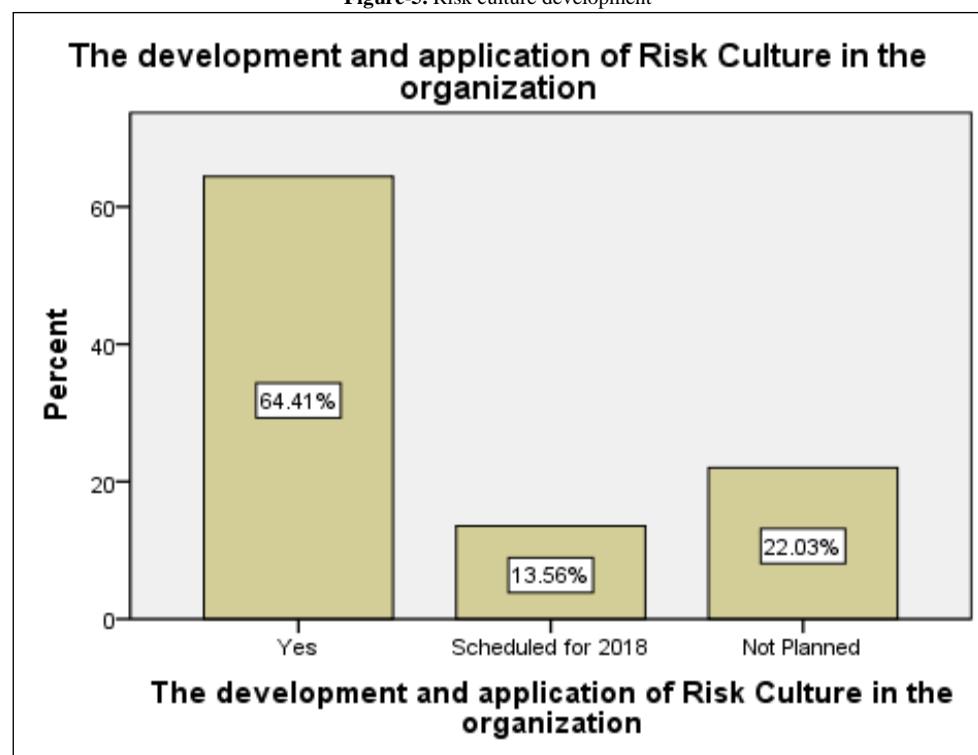
When tasks for Risk Management and Insurance leader are reviewed we see that analysis of capital projects and presentation of business plans (29), design and implementation of risk finance strategy and partnership solutions (26) and support for other functional areas such as contract negotiations, project management, purchases and investments (23) are currently not planned.

**Figure-4.** Tasks not planned for risk managers



When we review each individual task between “Not Planned”, “Scheduled for 2018” and “Yes” we generate the following tables: A review of the 11 tasks shows that 49.15% of respondents have not planned to implement an analysis of capital projects and presentation of business plans, while only 37.29% have implemented it and the remainder 13.56% have scheduled for 2018. Operational risk activities are still high on the agenda of Turkish risk responsible as in Europe. Insurance management and claims handling and insurable loss prevention is the most performed activities for both. Meanwhile, strategical activities are still less in the agenda of Turkish responsible than Europe. When asked about the Risk Culture 65% of respondent reponded that they had an active participation. %13 of the reposndents support that they will be taking part in the activities by the end of 2018.

**Figure-5.** Risk culture development



In addition, most of the financial risks have been performed by the influence of financial risk hedging organizations, project managers evaluate their own risks at their planning and executions, and health and safety staff manages directly its risks. In fact, this would not contrast with the presence of enterprise risk management, since these professions require the expertise, but still they may be consolidated with the other risks of the company.

Even though the risk levels are different and the strategic activities are inherently separate from the international version, we see that the Turkish approaches are more operational vs. strategic.

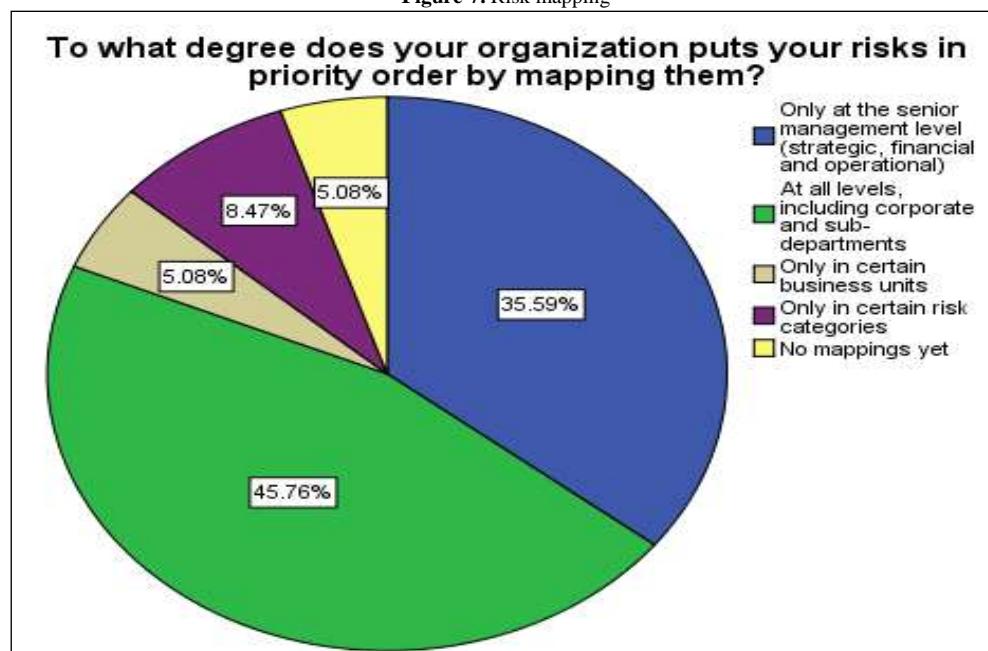
The method in which most respondent organizations interact with Risk Leaders, the Board of Directors and / or Senior Management is through the Early Detection Committee of Risk (44%), official presentations to the Board of Directors and Senior Management several times a year (27.12%) and by meeting with the Board and / or Senior Management members as requested (16.95%).

**Figure-6.** Interaction of Senior level with risk managers



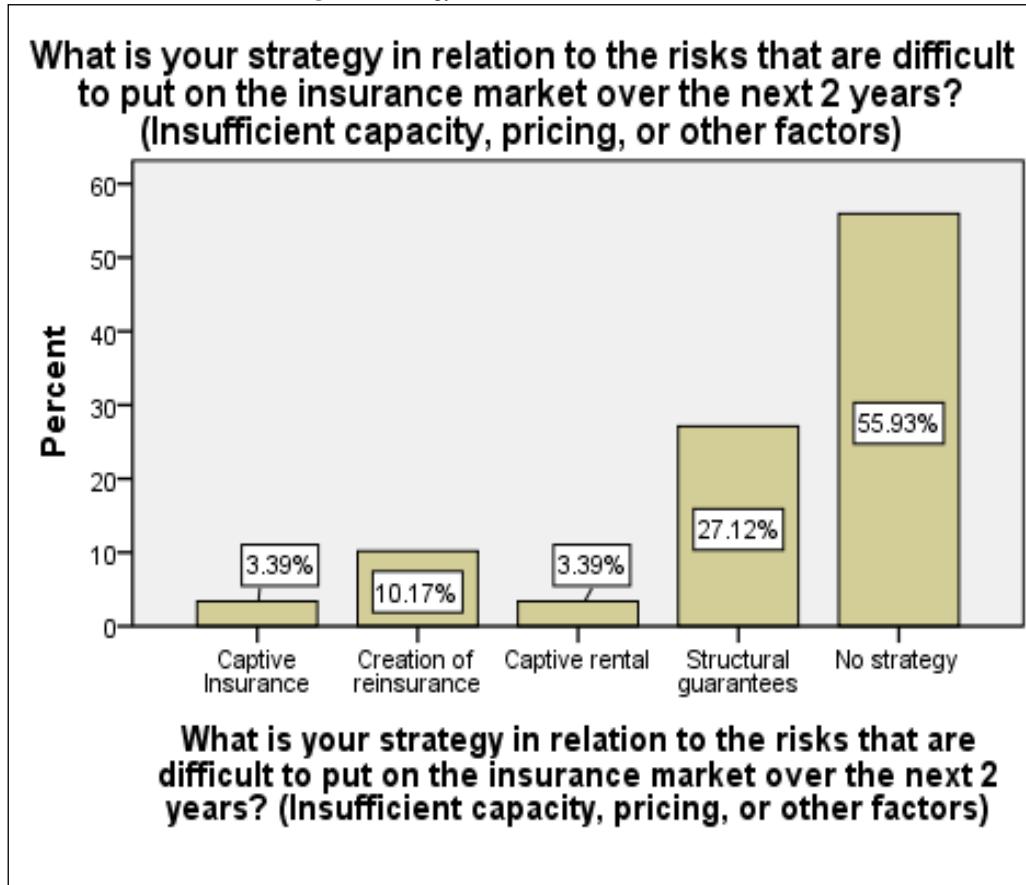
From the survey results, under the organizational forms we see that 33.90% of respondents state internal audit works separately than the risk, insurance and finance functions, 22.03% state that all functions (risk, insurance, finance and internal audit) work separately. On the other hand, 20.34% of respondents argue that all functions work in one partition. An overwhelming 45.76% of respondents state that their firms put risks in priority order by mapping them at all levels including corporate and sub departments, while 35.59% of respondents map risk only at the senior management level (strategic, financial and operational).

**Figure-7.** Risk mapping



It was also asked to the respondents if they have risk committees other than risk early detection. Following to the survey results, it's concluded that 40.68% of the 59 respondents have risk committees other than Risk Early Detection, while 59.32% do not. Only 23.73% of respondents have a separate module / tool / software for risk management within their Information System. Only 16.95% of respondents employ use of Captive. There may be a misinterpretation of captive insurance by respondents because there is not officially a captive insurance company in Turkey. An overwhelming percentage of respondents do not have a strategy (55.93%) to put on the insurance market over the next 2 years, while 27.12% are planning to implement structural guarantees (27.12%), and creation of reinsurance (10.17%).

**Figure-8.** Strategy for the risks difficult to be insured



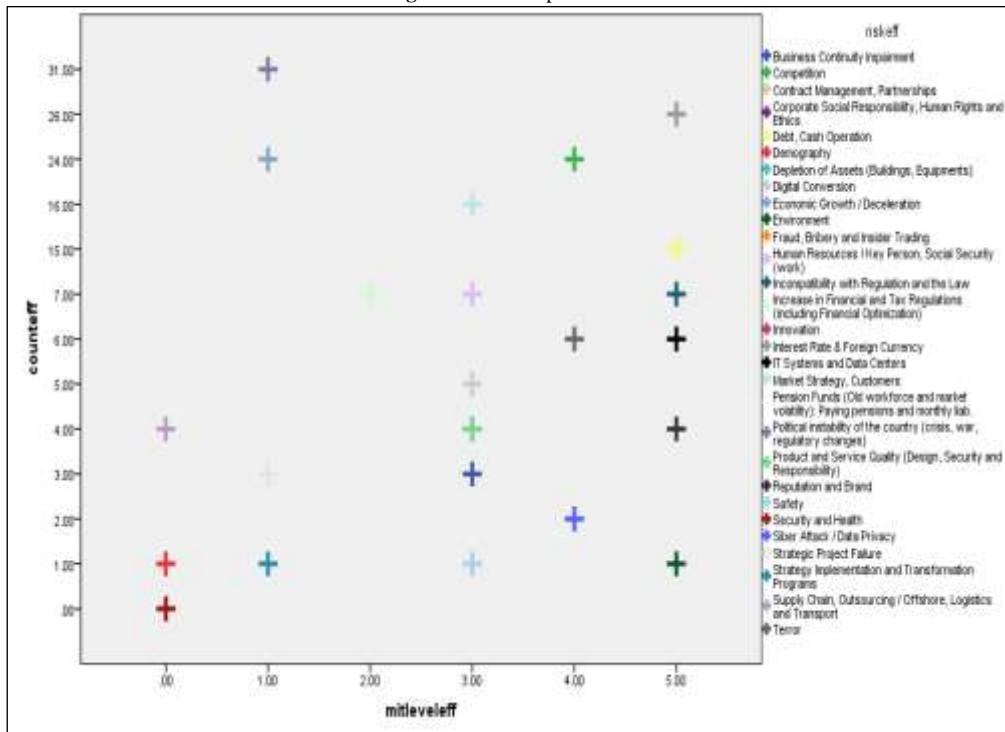
There are not many companies that have risk related committees other than the risk early detection committee. In fact, almost half of the companies in Turkey do the risk interaction through only this regulated way. Although some recent surveys have shown a risk committee presence about 50% to 60% of the companies even in the world, it is likely that besides they contribute the enterprise risk management system by opening the silo type management style, they can be useful also in determining the emerging risks. The evidence from the survey shows that 40.68% of the 59 respondents have risk committees other than Risk Early Detection, while 59.32% do not. The business departments with the most and least risk management interaction are very similar with FERMA. Insurance, Finance, ethics/compliance and business continuity/crisis management functions are very close partners. Meanwhile, the relations with IT, Human Resources and Procurement may be improved if necessary. By the trend of the increase in cyber risks, the relationship with IT would likely to be more in the future.

Recent standards underline the need for risk management to become operational in order to implement risk-based practices. The majority of Turkish companies do not have a formal risk appetite report. Among the principles of the last standard of COSO that has been announced in 2017, it's also an important headline at the strategy and objective setting, which should also be embraced by the Board. In the ISO standard, the risk appetite is defined as risk criteria. The use of information systems in the measurement of risk management is not widespread in Turkey. The most common usage of the system is mainly for risk reporting as FERMA survey result and then also risk quantification. The most important risk primarily seen in Turkey for the companies is the macro-economic conditions and political uncertainty, which was at lowering trend in the world.

#### 4.2. The Methods of Risk Management and the Risk Issues that have Priority

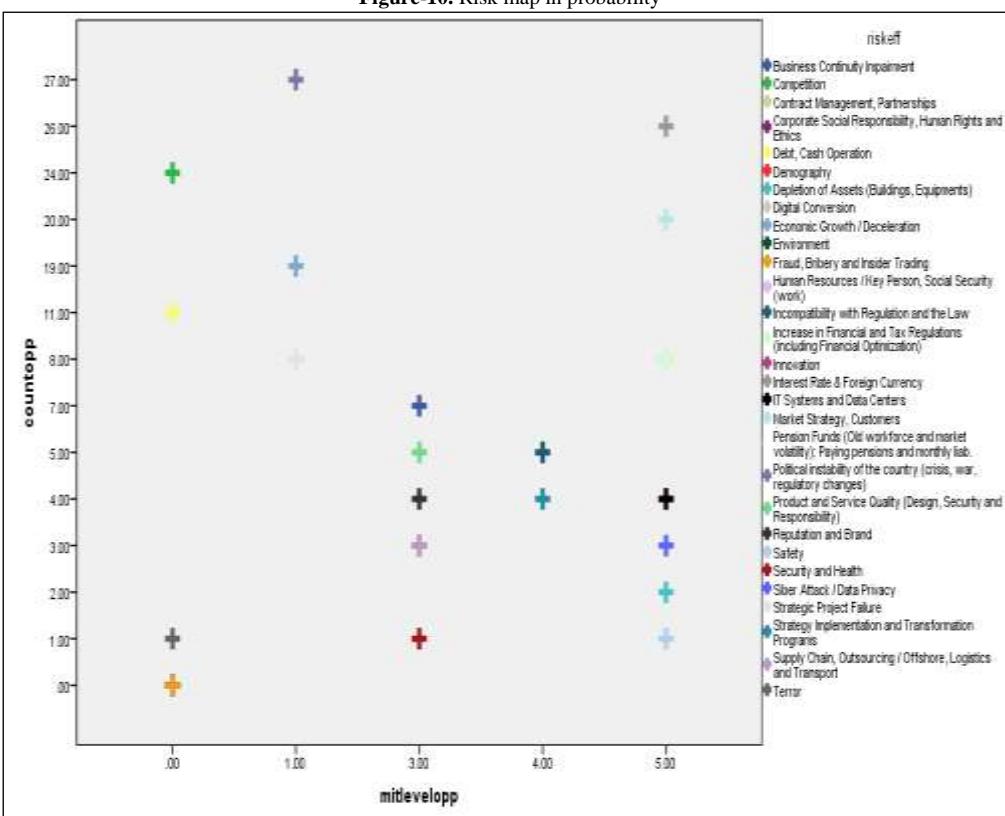
It was asked to the respondents the five biggest risks that threaten their organization's strategic success and the mitigation levels of them. Out of 59 of the respondents 31 think that political instability of the country (crisis, war, regulatory changes) will threaten their business in effect. Moreover, respondent think that interest rate & foreign currency (26), competition (24), economic growth / deceleration (24) and market strategy, customers (16) can also threaten the business.

Figure-9. Risk map in effect



The survey also shows that the acceptance strategy is applied to the Political instability of the country (crisis, war, regulatory changes), while transfer is applied to Strategy Implementation and Transformation Programs and decrease is applied to Competition. Overall satisfaction levels are higher for Reputation and Brand, Supply Chain, Outsourcing / Offshore, Logistics, Depletion of Assets (Buildings, Equipments) and Transport and Contract Management, Partnerships. Meanwhile, interest rate, debt cash operations are at the highest level of interest for the respondents. They mitigate it at high levels but the satisfaction is low or medium. The top risks are similar at FERMA's survey. Political, country instability is the risk which has the most impact. Economic conditions and competition are the other main risks where the first one is the top risk for FERMA. Meanwhile, interest rate, debt cash operations are at the highest level of interest for the respondents. They mitigate it at high levels but the satisfaction is low or medium. In probability, the top risks are seen as political instability (27), Interest Rate & Foreign Currency (26), and competition (24).

Figure-10. Risk map in probability

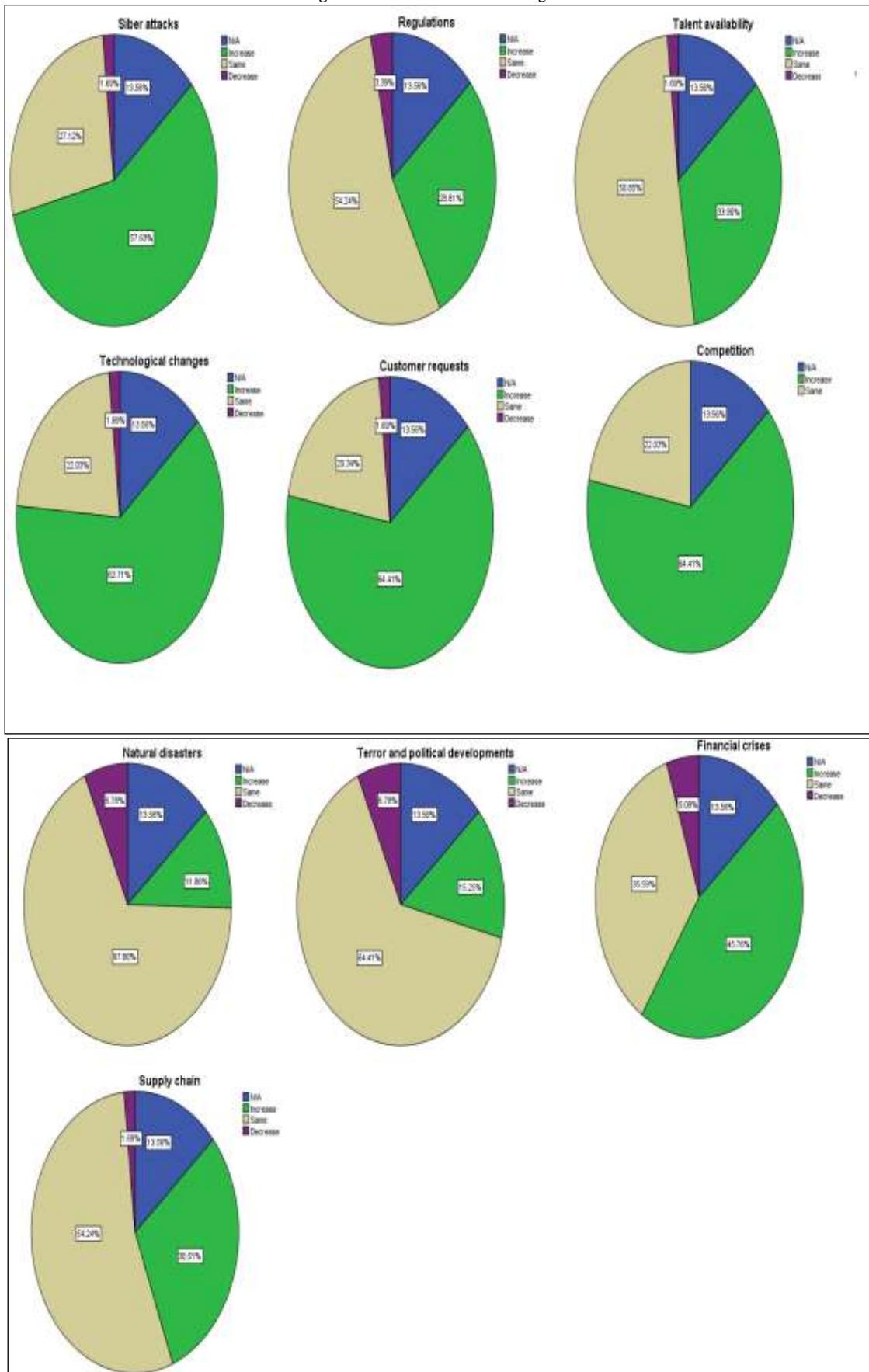


The few ones they put Innovation, Depletion of Assets (Buildings, Equipments), Human Resources / Key Person, Social Security (work), IT Systems and Data Centers, Siber Attack / Data Privacy, Safety risks at low probability, mitigate them at high levels. Meanwhile, Many considers market strategy risk highly probable, mitigates also it equally. At FERMA, nobody thinks they mitigate with their risks at high levels and they don't feel any elevated satisfaction for it. It was asked to the respondents how they plan to invest for risk management at the different sector.

The acceptance strategy is followed to mitigate and the companies are not satisfied obviously for this. Moreover, it's resulted that interest rate and foreign currency, competition, economic growth / deceleration and market strategy, customers can also threaten the business. The companies mitigate for interest and foreign currency at high level but they are not too much satisfied by the performance. Business continuity and cyber attack risks where the likelihood is thought high are among the top risks in FERMA while the respondents didn't consider them at the priority. They also mitigate them at the medium level, for the cyber the satisfaction level is low. These are recently developed also for FERMA, and we may expect some different mitigation strategies or tools in the future. Business disruption and economic conditions are also considered among the top risks following to the surveys of RIMS.(RIMS/Marsh,2013). From FERMA, despite the evolving economic conditions and the increased concern about cyber-attacks and data privacy, "digital transformation and "strategy execution and transformation programs" are not among the top ten risks to business. Following to RIMS, 62% of the companies see already cyber risk among top 5 risks (MARSH/RIMS, 2018). Naturally, BIST companies need firstly to recognize them more closely in order to take eventual actions. In the upcoming period, they expect more financial crise and competition risks. They also consider to do investments more to combat cyber attacks, technological developments, address customer requests, address competition and the financial crisis. On the other hand, firms will have less tendency to invest in adhering to regulations, talent retention, natural disasters, terror and political changes and their supply chain. Meanwhile, we may remember that according to the latest WEF report in 2018, the most important risk is seen environmental risk and following to Global CEO report conducted by KPMG in 2016 is talent retention for the executives. More than 44% of respondents do not have a formal risk appetite report for Risk Appetite and Risk Tolerance. In fact, this is fundamental for beginning the risk management process properly. The RIMS survey resulted as 52% no, after the distribution of NA, which would not be too different from ours (RIMS/Marsh 2013). Risk specialists mostly use analyses and also rely on senior management judgements to measure the impact of the potential risks. Although in terms of lower utilization rate in Turkey, insurance approaches used to reduce the risk does not seem different from the world. One of the most desirable developments is technical preliminaries to prevent damage. Insurance companies are also preparing reports to take measures to reduce the likelihood and severity of risk at the scene with the most competent experts in the world to provide services to the firm. Thus, there is also the motivation for the related company as the possibility of lowering the premium is also created. Consequently, from the current financial and economic environment, the most important expected change would be strengthening loss prevention activity also in Turkey as it was resulted according to FERMA. Insurance rate in Turkey is well below the world average in terms of gross direct insurance premiums. Gross direct insurance premiums, defined as gross insurance premiums for direct insurance for a reporting country, divided by the population, represent the average insurance spending per capita in the country. This indicator is shown in USD per capita. According to latest OECD insurance data, this amount is 161 USD for Turkey, 11000 USD for Ireland for example in 2016.

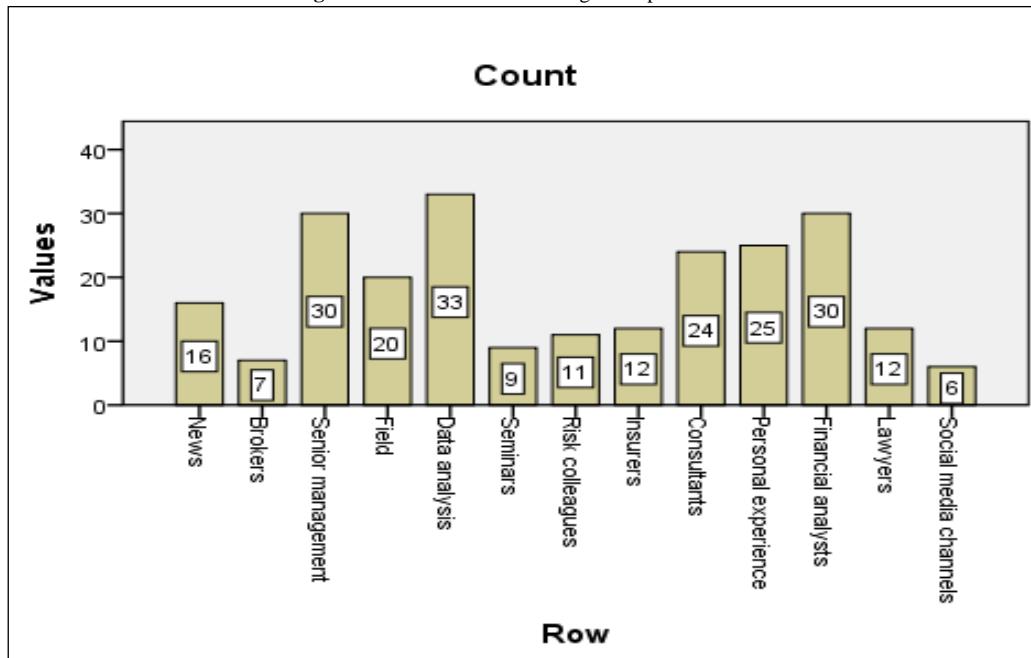
According to the pie charts generated below firms plan on increasing their measures to combat cyber attacks, technological developments, address customer requests, address competition and the financial crisis. On the other hand, firms will have less tendency to invest in adhering to regulations, talent, natural disasters, terror and political changes and their supply chain. Following to the results of FERMA, there is a rise of digital risks since 2014. Especially, data protection is on the agendas by also the new regulations. Actually, cyber-attack mitigation is at low level, even at the beginning for the respondents. The relation of risk managers need to be strengthened as a part of enterprise risk management in order to data processing as well. This relationship seemed highly elevated for our respondents.

Figure-11. Investment for risk mitigation



It was asked to the respondents what will be important for risk managers. Firms state that strategy and execution aptitude (30), communication and presentation skills (23) and planning and organization competence (22) will be important about risk management for the organization over the next 3-5 years. It was asked to the respondents how they measure the risk management performance. Respondents state that they measure their risk management performance by analyzing risk findings (33), analyzing the impact of strategy development (25), analyzing the integration of operations (18) and with insurance budget management (10).

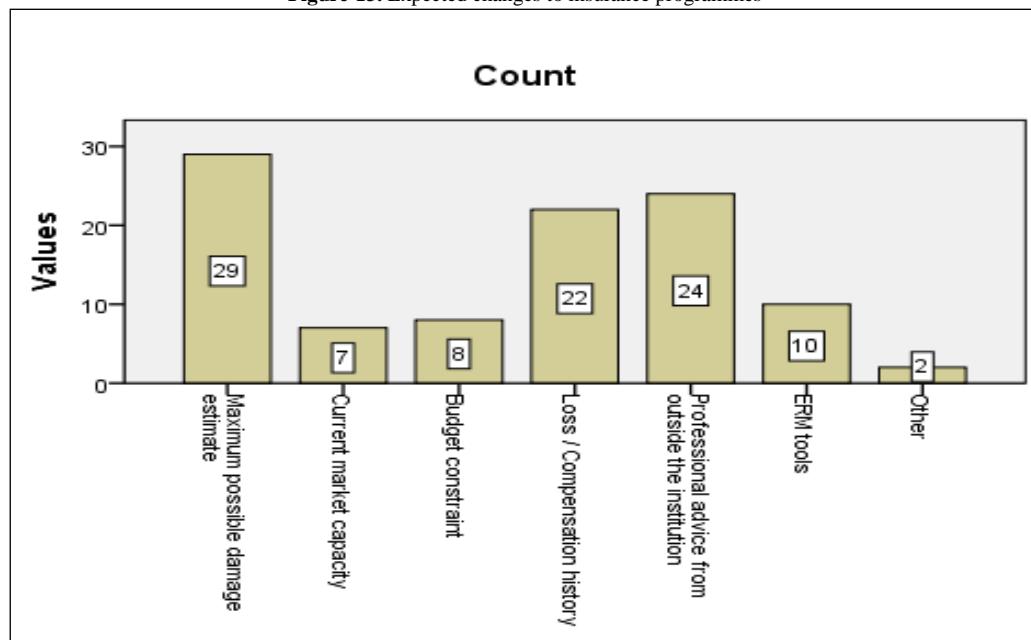
Figure-12. Measure of risk management performance



#### 4.3. Information about Insurance usage and Methods for Transferring the Risks

It was asked to the respondents the expected changes to insurance programs as a result to current financial and economic climate. An increase in the prevention activity (by 35.59% of respondents) is stated to allow for consideration of the current financial and economic environment. Furthermore %3.39 of them even considers a decrease.

Figure-13. Expected changes to insurance programmes

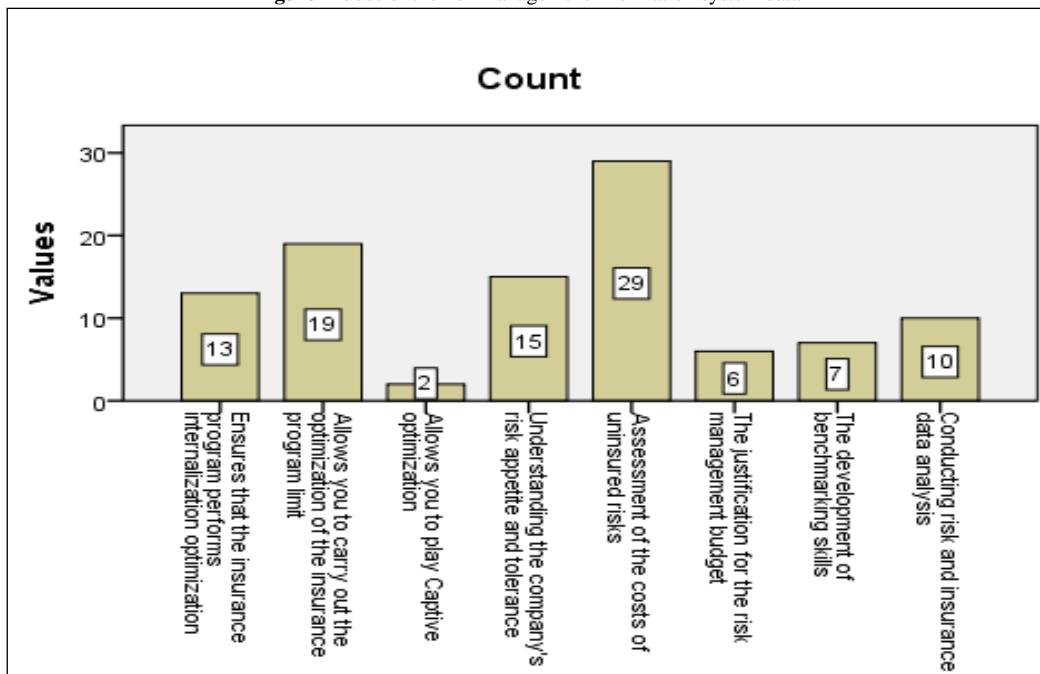


It was asked to the respondents how they choose the limits purchased per insurance branch. 29 respondents stated that the maximum possible damage estimate is how they choose their limits purchased per insurance branch. While 22 stated that they look at the loss, compensation history and 24 stated that they take professional advice from outside of the institution. It was asked to the respondents when the policy documents are issued for the policy start date. It's resulted that global policy documents are issued before the start date (37.29%), and within 1 month after the start date (18.84%). Local policy follows the same distribution.

Another question was about the main developments regarding the handling of loss control service and compensation claims. The three main developments regarding the handling of loss control service and compensation claims are appropriate and realistic provisions and counter provision (17), coordination among the teams involved in the claim (15) and pre-selection of lawyers / experts (15). For the service provider, these are creation of the policy (24), establishment of relationships between insured, insurer and brokers (18) and compensation creation of the claim handling procedure (14). It was asked to the respondents the most obvious use of the relevant data. They state that the most obvious use of the relevant data is conducting an assessment of the costs of uninsured risks (29),

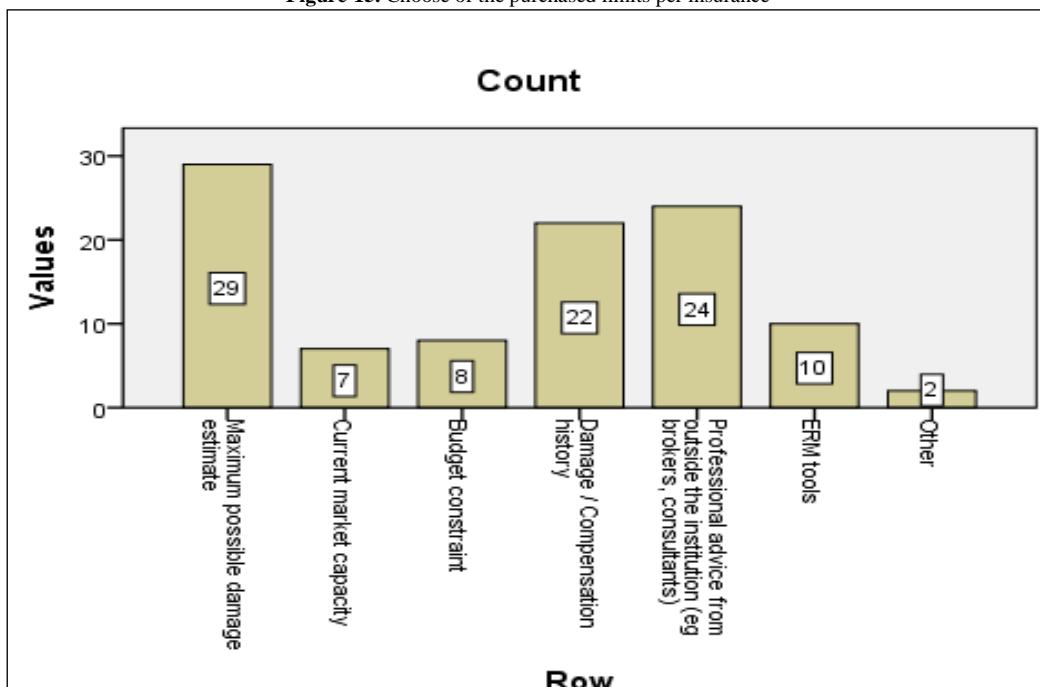
allowance to carry out optimization of insurance program limits (19) and understanding the company's risk appetite and tolerances (15). Claims datas are used mostly to conduct insurance programme retention optimization, insurance programme limit optimization and assess the cost of uninsured risks following to FERMA results.

**Figure-14.** use of the risk management information system data



It was asked to the respondents how they choose the purchased limits per insurance branch. 29 of respondents select their purchased limits per insurance branch by focusing on the maximum possible damage estimate, professional advice from outside the institution (consultant advice) (24), damage/compensation history (claims histories) (22). Following to FERMA results, 74% use maximum possible loss estimates, 55% consultant advice, 47% claims histories, 23% current market capacity. For FERMA ERM is also used more frequently.

**Figure-15.** Choose of the purchased limits per insurance



It was asked to the respondents the most common and most effective international program for the public responsibility risks. For public responsibility risks the 59 respondents state that an effective insurance program are master policies and local policies in each country where insured at 20.34%, only local independent policies at 5.08%, master policies and local policies limited to selected countries at 13.56% and master policy, unacceptable security deposit for international transactions at 1.69%. According to FERMA, compliance with local regulations remains a key consideration for international coverage. It was asked the areas of development that they expect from a risk and insurance management IT platform/portal. The two main areas of development for the IT tool for the enterprise is

technical information/recommendation and best practices (15.25%) and daily update of activities and documents (15.25%). The two main areas of development for the off-site IT solution is 7/24 transportation (25.42%) and damage claims and management (16.95%).

One of the most important reasons for this is that we can think of risk management as internalizing and taking back measures. Insurance are one of the measures, and how much preparation can be made about the surprises that may arise outside of it can contribute to the company's value. For public responsibility risks the respondents state that an effective insurance program are master policies and local policies in each country where insured at 20.34%, only local independent policies at 5.08%, master policies and local policies limited to selected countries at 13.56% and master policy, unacceptable security deposit for international transactions at 1.69%. According to FERMA, compliance with local regulations remains a key consideration for international coverage. Respondents state that they measure their risk management performance by analyzing risk findings (33), analyzing the impact of strategy development (25), analyzing the integration of operations (18) and with insurance budget management (10). According to the survey of RIMS, the most important measurement criterias are Insurance budget management, Timely risk identification, assessment and effective claims management(RIMS/Marsh 2015). This surprisingly shows more strategic focus than operational at our survey versus the other one.

An increase in the prevention activity (by 35.59% of respondents) is stated to allow for consideration of the current financial and economic environment. Furthermore %3.39 of them even considers a decrease. According to FERMA, it's also the case and with higher percentage of the participants (54%). While, long term contract or extension negotiations is considered to increase as 22.03%, decrease as 10.17% the rest responded it as the same or no idea. Implementation of captive facilities, compensation claim reconciliation, selection of more durable insurers, purchases of credit insurers are stated to remain the same mostly. Meanwhile, 30% of FERMA participants would accelerate the claims settlement process, 43% of them would intend to negotiate long term or roll-over agreements with the insurers.

Companies in Turkey mostly choose the limits purchased per insurance branch by maximum possible damage estimate and then professional advice from outside consultants as resulted from FERMA survey. Meanwhile, some use ERM as well; we don't know the trend in Turkey but we may also expect an increase as stated at FERMA report. The policy documents were issued before the policy start date at 37% which is more than FERMA participants, and which is at 18%. The three main developments regarding the handling of loss control service and compensation claims in Turkey are appropriate and realistic provisions and counter provision, coordination among the teams involved in the claim and pre-selection of lawyers/experts for companies themselves. For the service provider, these are creation of the policy, establishment of relationships between insured, insurer and brokers and compensation creation of the claim handling procedure. Meanwhile, according to FERMA, the areas of improvement are seen as rapid confirmation of coverage, policy wording tests and coordination between teams involved for service providers. They also state the importance of the communication. For companies themselves, key areas of improvement are different. Analysis of lessons learned is significant for risk managers with 54% believing that they need to improve this process within their organisations. This is followed by crisis management simulations at the pre-loss stage and the setting up of claims handling procedures and the co-ordination between teams involved.

The developments regarding loss control services are D&O and Cyber functions with the organizations and service providers, both. Following to FERMA, risk managers believe that cyber, liability and property are the main areas for improvement in relation to loss control services, alongside insurance policies. There is not any captive insurance company in Turkey; meanwhile, there is also a tendency of the decrease in it in Europe for FERMA, following to the operational cost increase, OECD concerns about profit transfer and tax monitoring focuses. The two main areas of development for the IT tool for the enterprise is technical information/recommendation and best practices and daily update of activities and documents. The two main areas of development for the off-site IT solution is 7/24 transportation and damage claims and management. Tailor-made and user-friendly reporting capabilities as well as claims management tools remain the top two priorities for improvement in terms of IT platform/portal for risk and insurance management, either via an in house or external solution according to FERMA report.

## 5. Conclusion

Turkish Corporates need to compete in the difficult global environment and as they do in the international arena, the risk management is essential tool to be successful. We conducted a survey to understand the level of this task for Turkish non financial companies.

The result of the survey's first part briefly shows that the companies are mostly organized close or in the finance organizations and their activities are more operational than strategical actually. Firms state that strategy and execution aptitude, communication and presentation skills and planning and organization competence will be important about risk management for the organization over the next 3-5 years.

In the second part it is clear the top risks that are seen by the Turkish Corporates are political instability of the country (crisis, war, regulatory changes), interest rate & foreign currency, competition and, economic growth / deceleration. Firms plan on increasing their measures to combat cyber attacks, technological developments, address customer requests, address competition and the financial crisis. On the other hand, firms will have less tendency to invest in adhering to regulations, talent, natural disasters, terror and political changes and their supply chain.

In the third and final part, an increase in the prevention activity is stated to allow for consideration of the current financial and economic environment. Companies in Turkey mostly choose the limits purchased per insurance branch by maximum possible damage estimate and then professional advice from outside consultants. The three main

developments regarding the handling of loss control service and compensation claims in Turkey are appropriate and realistic provisions and counter provision, coordination among the teams involved in the claim and pre-selection of lawyers / experts for companies themselves. For the service provider, these are creation of the policy, establishment of relationships between insured, insurer and brokers and compensation creation of the claim handling procedure.

Considering the results of the other surveys, we reject our hypothesis to a degree that there is a difference between Turkey and the international arena.

For the future studies, we recommend to renew the similar studies in order to follow the trend of the view on risk management for the non financial companies in Turkey. We may investigate also the approach for the companies that are not open to the stock exchange. Since they are not regulated at least through the risk early detection procedures, it would be interesting to understand not only their results but also to have the possibility to estimate the regulation effect.

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