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Serbian Journal of Management 5 (1) (2010) 1 - 20

Serbian  
Journal  
of  
Management

## ENTERPRISE RISK MANAGEMENT BASED INTERNAL AUDITING AND TURKEY PRACTICE

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(Received 12 May 2009; accepted 5 December 2009)

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### Abstract

*The differentiating needs of companies have caused the focused issue to change in internal auditing in time. In addition to controls, first, corporate governance and then risk management becomes the field of internal auditing. The possible roles of internal auditing unit in the process of risk management are the base of this study.*

*This approach, which could be defined as Enterprise Risk Management (ERM) Based Internal Auditing has been designed in the study on the basis of ERM framework published by COSO. This approach makes it possible to transfer data from ERM process to auditing.*

*Keywords: Enterprise risk management, Auditing*

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### 1. INTRODUCTION

COSO Enterprise Risk Management (ERM) framework emphasizes the necessity of evaluating the risk as a whole, determining the precautions through considering the whole company and putting them into effect. Despite the partial necessity on the subject of the criteria on frameworks to be used, in general, the risk management based auditing is run according to the BASEL principles and classifications in banks. On the other hand; in real sector companies, COSO ERM framework is taken

into consideration.

Although COSO and BASEL principles are generally parallel to each other, the difference is their classifying and measuring the risks. This situation differs due to the changing needs of sectors, specializing facilities and data quality that could be used.

Moving from the fact that, at the base of auditing, there are determining, preventing and removing the risks through control methods, it is clear that it will help companies to increase the effective using of their scarce sources via combining the risk management and auditing systems.

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Towards the end of 1990s, in this field the studies increased, the publishing of COSO ERM as a summary in 2004 and again in 2006, but broadly, made the question easy to answer what the related points of risk management and auditing are.

Also with the contributions of manipulations taking place in international internal auditing standards, COSO ERM framework and BASEL II principles, the risk based internal auditing which was accepted globally, together with Sarbanes-Oxley accepted during the period after Enron, finally gained legal ground in the USA. And in Turkey, although it is not notified clearly in Banking Law accepted in 2006, in the "Regulation on Internal Systems of Banks" published in 2006, the aim of internal auditing was stated as "getting guarantee on effectiveness and efficiency of internal control and risk management (BDDK, 2006)" and the fact that internal auditing has the responsibility on risk management was accepted.

In respect to establishing risk management system of internal auditing, running effectively, and auditing its effectiveness, in parallel with maturity level of risk management of companies, this approach, which was accepted on the global scale, suggests to have a leading or consulting role.

In this respect, it is clear that a candidate country, which is carrying out adaptation meetings with EU and planning to start to apply BASEL II principles in near future, completing internal auditing application to risk management system and thus it will certainly activate in a more stable and effective period in which capital adequacy is determined more truly, scarce sources of companies are saved and used effectively.

## **2. ENTERPRISE RISK MANAGEMENT BASED INTERNAL AUDITING AND ITS STAGES**

Auditing approaches are generally given the name of the focus point of auditing. The focus point in auditing is defined as "control focused auditing" on which controls are applied. After the change, the sliding of focus point towards risks, the publishing of the enterprise Risk Management framework by COSO in 2004 and the efforts for completing the internal auditing to risk management process have contributed "Enterprise Risk Management (ERM) Based Internal Auditing" to emerge.

ERM Based Internal Auditing is a kind of auditing approach based on determining and evaluating, companies' risk characteristics, designing the auditing process suitable to enterprise risk range in line with risk matrix or risk map and based on the distribution of limited auditing sources to risk evaluation properly and aims increasing the effectiveness and auditing the effectiveness of risk management system. The internal auditing unit in this approach runs the services of trust and consulting for the purpose of risk management activities.

The ERM based internal auditing, manipulated by enterprise risk management principles, and in addition to traditional auditing functions, determines whether the enterprise risk management can manage the risks in general, within the framework of previously established limits of taking risk desire (The Institute of Internal Auditors – UK & Ireland, 2003). After auditing activities, through comparison between the current situation and desired situation determined by risk management process, it is aimed to eliminate the defaults of the risk management system (Sobel, 2005).

*Table 1. COSO ERM Framework – ERM Based Internal Auditing Connections and Internal Auditing Stages*

COSO ERM Frame	ERM Based Internal Auditing and Connections	Auditing Stage
Control Environment	Data Input about enterprise	Understanding the Structure of Enterprise and Planning in Auditing
Determining the Target	Enterprise targets Understanding enterprise work model and limits of risk	
Incident-Risk Defining	First data for the process of determining and risk recording	
Risk Evaluating	Evaluating of effect and possibility risks Order of risks Risk recording	
Risk Behaviour	Risk behaviour within the frame of taking risk desire Basic data for designing auditing environment	
Control Activities	Test stages	Performing Auditing
Information and Communication	Information and Communication for the function of the system	Reporting In Auditing
Observing	Process of observing and follow	

Source: Taken and developed from; Sobel Paul J., *Auditor's Risk Management Guide Integrating Auditing and ERM*, CCH Incorporated, USA, 2005, p. 14.10

As given in the Table 1, the internal auditing system based on enterprise risk management, occurs with the conjunction of ERM units. Among ERM units, the control environment targeting, event risk defining, risk evaluating and risk behaviour are overlapping with understanding the enterprise structure for auditing and planning the auditing. While the control activities, being the sixth one of ERM units, in general, is parallel with carrying out auditing activities, the information and communication and the observation process are parallel with process of reporting in internal auditing.

### **2.1. The stages of Enterprise Risk Management Based Internal Auditing**

As in the form given in explanation guide at the U.K & Ireland Institute of Internal

Auditors, the stages of ERM based internal auditing are arranged as evaluating risk quality, planning the auditing in the frame of auditing strategy, creating individual auditing task and reporting the auditing (The Institute of Internal Auditors – UK & Ireland, 2003).

Evaluating the risk management quality and risk recording are their direct connection points with risk management process. Also, the risk and auditing atmosphere are supported by the data of risk management system through risk recording.

The ERM based internal auditing, shown in Figure 1, consist of following stages (Griffiths, 2006; The Institute of Internal Auditors – UK & Ireland , 2005; Gupta, 2001; Griffiths, 2005):

– Through studying enterprise control environment and enterprise targets which are also the start point of enterprise risk

management, understanding the enterprise structure and evaluating the maturity of the risk management which is parallel with enterprise risk management target determining stage and comprising the activities on understanding the enterprise work processes.

- Planning of auditing which consists of preparing risk recording, determining the process of required assurance level, preparing auditing plan and getting the opinions of the management and auditing

committee about the plan within the frame of auditing strategy.

- Executing the auditing which consists of preparing individual auditing plan parallel with general auditing plan, creating auditing activities in order to reach auditors' opinion.

- Finalizing and reporting the auditing which consists of the stages of making necessary actualities in auditing and risk environment under the control of the management, and finally, moving from the

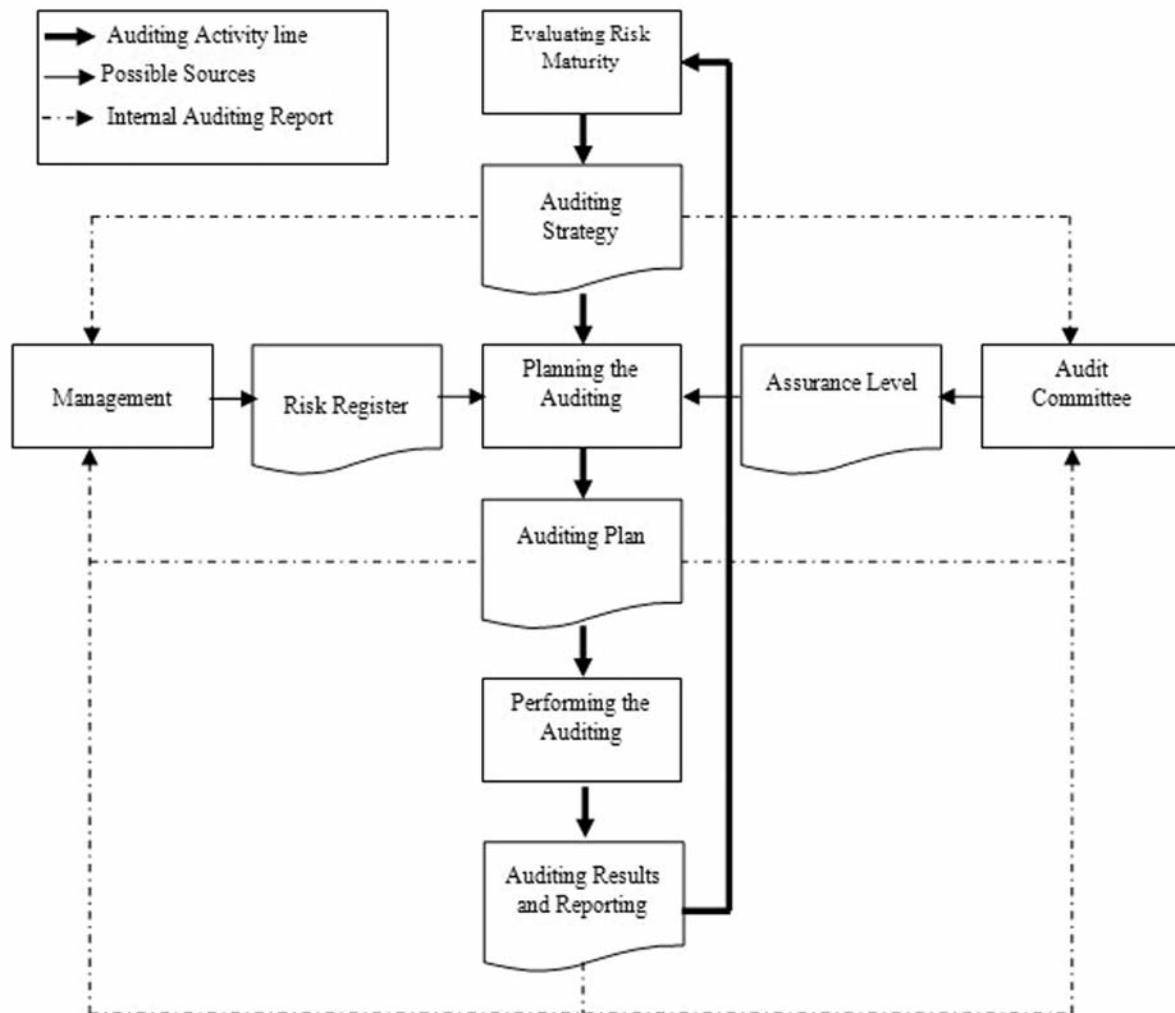


Figure 1. The Stage of Enterprise Risk Management Based Internal Auditing

(Source: The Institute of Internal Auditors - UK and Ireland, An Approach to Implementing Risk Based Internal Auditing, Institute of Internal Auditors - UK and Ireland, December 2005.)

result, completing the auditing activity summary and report to be presented to the management and auditing committee.

While the bold arrows stated in the figure (→) shows the main course of auditing activity, the arrows in normal thickness (→) show the outputs of enterprise risk management system which supports the internal auditing, and also show the sources-inputs for auditing. The interrupted lined arrows show that which units will be asked for opinion, who is responsible for the report, and the necessity of the agreement of auditing report to be proposed with enterprise auditing strategy within organization structure, before publishing of the report.

### 3. LITERATURE REVIEW TO ENTERPRISE RISK MANAGEMENT BASED INTERNAL AUDITING

Although risk management has aroused scientists' interest for ages, risk based auditing was examined firstly by McNamee in 1997 in his "Risk Based Auditing" (Internal Auditing) named study. In the study, it is stated that when controls are considered at the base of auditing, risk management and auditing should meet at the some point for having the enterprise attain its aim.

In the study made by McNamee and Georges in 1998 and named as "Changing Paradigm" (Mc2 Management Consulting), the process from traditional auditing to risk based auditing was examined, and as a foresight, the risk management based auditing was discussed.

In the studies made for the Institute of Internal Auditors in 1999 with the headings;

"Risk Management and Internal Auditing: What are the Essential Building Blocks for a Successful Paradigm Change?" (International Journal of Auditing) and "The Risk management and Internal Auditing Relationship: Developing and Validating Model" (International Journal of Auditing) by again the same authors, a defining model was developed for risk management and internal auditing and common study fields defined and also an info line designed so that they could work effectively throughout the organization.

In 2003, a study made by Allegrini ve D'onza in Italy with heading "Internal Auditing a Risk Assessment in Large Italian Companies: an Empirical Survey" (International Journal of Auditing) was published. In this study, a questionnaire was practiced on 100 large Italian companies and was discussed whether there was an internal auditing unit, the auditing plans were applied as risk focused, and how much place to Control Risk Core Evaluating application were given.

In addition to the applied studies in national scale in 2005, an applied study by Beasley, Clune and Hermanson made a study in international scale including the countries, USA, Canada, UK and Australia and after the study process a publication named "ERM a status report" (Internal Auditing) was made. In the study, it was tried to measure in what level the ERM process was, what activities the internal auditing unit carried out in ERM process and how ERM activities affected internal auditing activities in the companies that joined the questionnaire. In the study it was understand that in 48 percent of the answering companies, either ERM process was completely active or it was partly in practice. Additionally, it was also determined that internal auditing units,

coordinated the medium-sized ERM activities, joined in risk defining activities, followed the ERM process, carried out the ERM teaching, led to the process and last carried out risk evaluating activities.

Another study, similar to Italian made in the year 2003, is the one with heading “The use of internal audit by Australian companies” (Managerial Auditing Journal) made by Stewart and Kent on the companies having activities in the stock market in Australia. The study is about determining the relation between internal auditing and risk management system. In the study, it was determined that the companies which had internal auditing units makes one third of all and risk management system.

In the study made by Gramling and Myers in the year 2006, with heading “Internal Auditing’s Role in ERM” (Internal Auditor, 2006), the responsibility areas and the roles that internal auditing could undertake in ERM process were evaluated under the light of questionnaire practice. The results of the study are parallel with the classification considered.

In the study, in ERM process made by The United Kingdom Internal Auditing Institute, basic function of internal auditing is parallel with the classification of tasks that could be undertaken conditionally and the tasks not.

Another study made by Fraser and Henry in the year 2007 with heading “Embedding risk management: structures and approaches (Managerial Auditing Journal) which stresses that today internal auditing affects the risk management process, becomes dominant in this process and that comes to the result that auditing committee also become mores effective in risk management in the study. Questions “What are the roles of internal auditing and auditing committee in ERM process? and “How is the mechanism

run during the identification of critical risks?” are tried to be answered.

Another study to be stated here is the report, made by the Pricewaterhouse Coopers auditing and consulting company in the year 2007 and based on market research, named “Internal Audit 2012”. In the study, it is stated that while 20th century internal auditing plans functioned basically on control guarantee, current internal auditing plans function basically on risk. And in the study, in near future, until 2012 in the USA, it is estimated that the ERM based internal auditing will have been completed and it is generally foresighted that internal auditing systems will function towards giving guarantee about the activities of risk management system and the use of risk management based internal auditing will be common.

Another important study in international literature is the one made by Collier, Berry and Burke in the year 2007 named “Risk and Management Accounting”. The study was designed as a questionnaire and interview and the questions “What are the roles of management accountant in risk management? or what might they be” tried to be answered. As a result, it was found out that management accountant had to take place effectively in risk management process.

In March 2006, the study made by Kishalı and Pehlivanlı, named “Risk Focused Internal auditing and Istanbul Stock Exchange (ISE) practise” (Accounting and Financing Journal) is a defining research towards internal auditing and in order to determine the current practices it includes an ISE questionnaire about the issue. In the study, it is dealt with the transition process from risk based auditing process to risk management based auditing.

The last research on this issue was made to The Economic Intelligence Unit by an independent firm KPMG Global and published with heading "Research Results on Evolution of Risk and Controls" (International Enterprise Management Conference). Also latest developments seen in the field of risk management and internal controls are discussed in the study.

#### **4. THE GENERAL AIM OF THE STUDY**

When discussed the factors which caused the internal auditing and risk management activities to integration in international practice in the direction of the information given in the literature study part, moving from the developments seen in risk management system field, the factors by which the ERM based internal auditing term was caused to emerge, can be seen together.

Taking into consideration the last point which international practice has reached and answered questions such as what is going on or what to be done about the issue has given ground to the study.

The general aim of the study, drawn within this limited issue framework is to expose the Turkey practice about internal auditing and enterprise risk management activities, to define the common working fields of internal auditing and risk management systems in order to have internal auditing activities work in the direction of enterprise risk management, and to state how data transfer will be done.

Besides, in recent years, auditing the risk management system explained among the activity fields of internal auditing or organizing the function of the system, connected with the characteristics of the enterprise, via internal auditing unit, has

been analyzed from the point of view of Turkey.

#### **5. QUESTIONNAIRE STUDY**

The study has been designed in the form of questionnaire. The evaluation is done through questionnaire in order to clarify internal auditing culture and practices in Turkey.

##### **5.1. The Content and Limits of the Questionnaire Study**

The range of this study is defined as; the companies operated in ISE National Market, Investment Cooperation, companies operated in the Second National Market and New Economy Market. The 320 companies, within the range mentioned above, were defined as the main part and the questionnaire letters were posted to all of them in 2007.

The questionnaires were mainly posted to internal auditing unit administrators, to heads of inspection boards or to the authorities in position of financial affairs whose names were determined from activity reports, company management adaptation reports, and company internet sites.

##### **5.2. Preparation of Questionnaire Items and the Qualities of Questions**

In the process of preparation of questionnaire items, it was benefited from the questionnaire practice and interview parts of the studies named "Risk and Management Accounting" (Collier et al., 2007), (Enterprise Risk Management: Puling it all together" (Walker et al., 2002), "Internal Auditing an Risk Assessment in

Large Italian Companies: an Empirical Survey” (Allegrini & D’onza, 2003), “Risk Based Auditing” (Griffiths, 2006) and “Risk Based Internal Auditing and ISE Application” (Kishali & Pehlivanlı, 2006).

After preparation of questionnaire items, a group of 10 specialists was formed and the understandability, objectivity and the order of questions were tested. The last formation to the questions was made in detailed group study.

The questionnaire consists of two parts and 27 questions including personal details (4 questions) and company details (23 questions) 16 questions are of multiple choice type questions and other 11 questions are the explanation type suitable to 5 point Likert scale.

#### 5.4. Analyze of Reliability

Before entering a detailed analyze of questionnaire answer, the questions are to be evaluated by means of reliability. Reliability is the numerical expression of coherence of the questions with each other and the objectivity on measuring the questions. Reliability is often measured in statistics through “Cronbach Alpha Coefficient”. The coefficient is classified as follows (Akgül & Çevik, 2003):

- 0.  $00 \leq \alpha \leq 0.40$  the scale is unreliable;
- 0.  $40 \leq \alpha \leq 0.60$  the scale is at low reliable;
- 0.  $60 \leq \alpha \leq 0.80$  the scale is quite reliable;
- 0.  $80 \leq \alpha \leq 1,00$  the scale is at high reliable.

As it is seen in the Table 2, the coefficient of responds measured through SPSS program, the Cronbach Alpha Coefficient was determined as 0.753. And this indicates that the questionnaire is “quite reliable”.

Table 2. Statistics of Reliability

Cronbach's Alpha	N of Items
0,753	21

#### 5.5. Evaluation of Questionnaire Data

Before the test of hypothesis of the questionnaire, and moving from the information about the company, the general view of companies, internal auditing system and the information on enterprise risk management were tried to be reached. In this manner, the answer to the questions, taking place in the part of the information on people and enterprises in the questionnaire will be examined.

##### 5.5.1. Personal Information and Views

In accordance with the questionnaire order, personal information and views about the participants are examined.

1. Titles and experiences were asked to the participants and the results summed up in the Table 3.

The 46.2 % of participants were determined as financial affair manager, 30.2 % internal auditing manager/member, 11.8 % head of inspection committee and 11.8 % general manager. This distribution at

Table 3. Participants Position Distribution

	Frequency	Percentage
Head of Inspection Committee	9	11,8
Internal Auditing Manager/Staff	23	30,2
General Manager	9	11,8
Financial Affair Manager	35	46,2
Total	76	100,0



*Table 4. Participant Experience Distribution*

	Frequency	Percentage
<2	19	25,0
2-5	26	34,2
6-10	18	23,7
11-15	9	11,8
15>	4	5,3
<b>Total</b>	76	100,0

the same time shows the position of internal auditing unit within the organization.

2. It was asked to the participants how long they worked in their current position and the results gathered in the Table 4.

In respect to experience it was found out that participants who had experience 2-5 years mainly form 34. 2 % and the ones had less than 2 years form 25 % respectively.

3. It was asked to the participants how much place risk management covered in auditing works and the results gathered in the Table 5.

The answers given to the question in order to find out the time left for risk management activities in internal auditing are 30.7% between 0-25 % and 30.7 % between 26-50 %.

These results, when evaluated together with Table 6 in which internal auditing unit is analyzed for effectiveness in ERM process, become more meaningful. In the table

*Table 5. Time Given to Risk Management Activities in Internal Auditing*

	Frequency	Percentage
<b>Never</b>	1	1,3
<b>% 0-25</b>	23	30,3
<b>% 26-50</b>	23	30,3
<b>% 51-75</b>	18	23,7
<b>% 76-100</b>	10	13,2
<b>Lost data</b>	1	1,3
<b>Total</b>	76	100,0

mentioned, the internal auditing unit is seen to have taken role mostly in reporting and observing stages with 50 percent proportion in ERM processes.

4. Performing internal auditing activities in the most effective way depends on the support of senior management. In this manner, the question, “what is the thought of senior management on internal auditing?” was asked to the participants and they were wanted to answer the question as quite negative, negative, uninterested, interested and quite interested, through 5 point classification scale and the results are shown in the Table 5.

*Table 6. View of Senior Management on Internal Auditing*

	N	Min	Max	Avg	Standard Deviation
<b>View of Upper Management on Internal Auditing</b>	73	3,00	5,00	4,3288	0,50152
<b>Valid N (list wise)</b>	73				

As seen in the Table 6, the point of view of senior management on internal auditing is included in “interested” classification in respect to all companies. The result is important for internal auditing units in order to perform their duties effectively and the internal auditing is given necessary support, at least among the companies in ISE.

### **5.5.2. Information about the Enterprise**

The second part of the questionnaire is for gathering information about enterprise. The analyze of the answers which participants

*Table 7. Participants' Enterprise; A Subsidiary of a Holding?*

	Frequency	Percentage
<b>Yes</b>	66	86,8
<b>No</b>	10	13,2
<b>Total</b>	76	100,0

gave to the question part about enterprise is made here.

1. It was asked to participants whether their companies are a group (holding) or not, and the answers were taken and shown in the Table 7.

86.8 % of the questionnaire participants are of a group/holding and 13.2 % of them is an independent enterprise.

2. Related with the former question, it was wanted to be determined whether the participants, belonging to a holding, are of a main company or an affiliate one and reached to the answer in the Table 8.

The participants who told to be of a holding, stated that 24.2 % of them worked for the main company and the 75.8 % worked for a dependent one. These results show that institutional companies leave enough sources to auditing and risk management under favourable conditions and take these activities seriously.

3. The question "In which sector do they work?" was asked to the participants and the answers were taken and shown in the Table 9.

*Table 8. The Position of the Enterprise in the Holding*

	Frequency	Percentage
<b>Main Firm</b>	16	21,1
<b>Branch Firm</b>	50	65,8
<b>Lost data</b>	10	13,2
<b>Total</b>	76	100,0

*Table 9. Sectoral Distribution*

	Frequency	Percentage
<b>Finance/Banking</b>	26	34,2
<b>Production/Retail</b>	42	55,2
<b>Service</b>	7	9,2
<b>Technology</b>	1	1,3
<b>Total</b>	76	100,0

34.2 % of the participants work in finance/banking. 55.2 % production/Retail, 9.2 % Service, 1.3 % technology.

4. The active size asked to the participants and the results shown in the Table 10.

It is understand from the Table 10 that the companies which answered the questionnaire items mainly have a 200 million TL and assets size as 57.9 % in proportion.

*Table 10. Company Active Size*

	Frequency	Percentage
<b>3millionTL - 15 million TL</b>	6	7,9
<b>15 million TL-50 million TL</b>	8	10,5
<b>50 million TL-200 million TL</b>	18	23,7
<b>200 million TL and over</b>	44	57,9
<b>Total</b>	76	100,0

5. The question "Is there an internal auditing unit in your company?" was asked and the results in the Table 11 were taken.

The core of this study consists of companies which have internal auditing unit. It is understood that the 84.2 % of the companies joined in the questionnaire have internal auditing units, but the 15.8 % of them did not.

6. The participants were asked the internal auditor number and the results shown in the Table 12.

*Table 11. The Existence of Internal Auditing Unit*

	Frequency	Percentage
<b>Yes</b>	64	84,2
<b>No</b>	12	15,8
<b>Total</b>	76	100,0

Table 12. Number of Internal Auditor

	Frequency	Percentage
<b>1-3</b>	34	44,7
<b>4-7</b>	14	18,4
<b>8-12</b>	3	3,9
<b>13-18</b>	3	3,9
<b>18 and over</b>	8	10,5
<b>None</b>	14	18,4
<b>Total</b>	76	100,0

The number of the companies which employ internal auditor is (76-14) 62. It is understood from the table that among the companies which have internal auditing department (34/62); 56.3 % of them have 1-3 and 21,9 % of them have 4-7 auditors.

7. The questions “Do you get support service from out sources?” asked to the participants and the results in the Table 13 were received. 75 % of the participants of the questionnaire stated that they had auditing service from out source.

8. Related with the previous question, it was asked what the auditing support services from outer sources were and the results are shown in the Table 14.

As it can be seen in the Table 14, the auditing services received as a unique one are auditing in information technologies with a 15.8 % proportion and practice for integrating internal auditing with a 14.0 % proportion. The 61.4 % of those which receive auditing services from outer sources preferred the alternative “other”. The aim of this study is to examine the internal auditing

Table 13. Getting Auditing Service From Out Source

	Frequency	Percentage
<b>Yes</b>	57	75,0
<b>No</b>	19	25,0
<b>Total</b>	76	100,0

and risk management the companies received from outer sources, but it is understood from the questionnaire results that those which preferred the alternative “other” are financial counselling service with a 90 % proportion.

According to on independent auditing firm called KPMG, in a global scale, the 39 % of the participants stated that they received at least a bit part of internal auditing from outer sources. As in Turkey results, this proportion results in 75 %, yet the auditing support services from outer sources were determined as mainly certified financial consultant (Yardımcı, 2008).

9. In the question, in order to determine which person the internal unit makes reporting to within organization, the participants were given more than one alternative; head of the board, CEO, auditing committee and general manager or vice managers. The reason for presenting more than one alternative is to be able to determine the people to whom the internal auditing unit makes reporting, without giving any clues.

Table 14. Auditing Support Services from Out Sources

	Frequency	Percentage
<b>IT Auditing</b>	9	15,8
<b>Foreign Country Branch Auditing</b>	3	5,3
<b>Temporary Special Missionaries (fraudulent examines etc.)</b>	2	3,5
<b>Internal Auditing Integration Studies</b>	8	14,0
<b>Other</b>	35	61,4
<b>Total</b>	76	100,0

*Table 15. The Authorities to Whom Internal Auditing Makes Reporting*

	Frequency	Average Number
a) Head of the Board	30	6,5
b) Member of the Board	16	
c) CEO	16	
d) Auditing Committee	23	
e) General Manager or Vice Managers	29	

That internal auditing unit makes reporting functionally to auditing committee on management council, and administratively to head of the board is the standard method recommended. However, the results gathered show that in practice, the proportion of the reporting to the General Manager or vice managers and CEO is 39 % in total percentage (45/1149). On the other hand, the proportion of reporting to Auditing Committee and Related Member of the Board, was found as (39/114) 34%. This situation contradicts with international practice and standards.

Annual reporting average found as 6.5. This means that the internal auditing report was prepared 6 times a year. In the study of activity report which becomes the first in practice part, it is understood that, in Turkey, internal auditing reports aren't explained to public, not published and not announced to investors and other related people via internet. It is clear that, on a regular basis, publishing of internal auditing reports would be beneficial in respect to transparency.

Contrary to Turkey practice, and according to the research made by PricewaterhouseCoopers in the USA in 2007, the 86 % of questionnaire participants pointed out that they made reporting to the auditing committee or head of the board

functionally. The administrative reporting to CEO was found with a proportion at 31 % and to CEO (Chief Financial Officer) as 47 % (PricewaterhouseCoopers, 2007).

That, in Turkey practice, the functional reporting to Auditing Committee, and related member of Board has a 34 % proportion, and on the other hand, in the USA practice, this proportion being 86 %, shows that the USA practice compared to Turkey Practice, gives internal auditing units ability to behave more independently and that it is parallel to the standards.

10. The focus point of internal auditing activities was asked to the participants and wanted them to transfer their answers to the 5 point scale in between 1-5.

As it is understood from answers, the focus point of internal auditing activities is seen within conformity auditing, having an average of 4.30. Conformity auditing is followed by activity auditing with average of 4.14, auditing financial tables with average of 3.88, error researches with average of 3.80, auditing the risks of enterprise with average of 3.63 and lastly the auditing of information technologies with 2.88. These

*Table 16. The Focus Point of Internal Auditing*

	Frequency	Average Number
a) Head of the Board	30	6,5
b) Member of the Board	16	
c) CEO	16	
d) Auditing Committee	23	
e) General Manager or Vice Managers	29	

Table 17. ERM Stage

	Frequency	Percentage
Completely active	28	36,8
ERM process started but not active	28	36,8
On planning stage	13	17,1
Not being thought yet	7	9,2
Total	76	100,0

results, when evaluated together with “Defining the Enterprise Auditing Culture” become more meaningful.

11. The question “At what level are the studies on Institutional Risk management in your company?” was asked to the participant and the results are in the Table 17.

As can be seen in the Table 17, the companies in which ERM process is completely active (36.8 %), and the ones in which ERM is partly active (36.8 %), make the 73.6 % of all participants. It is understood from activity reports examined in parallel with questionnaire answers that the institutions in which ERM process is fully active are the banks (the number of the banks/financial institutions joined the questionnaire is 26) have legal obligation, and others, the holdings and their joint

companies have utmost trade competition in international arena.

12. The questionnaire participants were asked their ideas on the factor which manipulates the management activities, and the answer alternatives were ordered as; legal factors, shareholders’ expectations, trade competition environment, demands of customer/consumer, demands of the board of directors/senior directors, institutional management principles, internal standards or frames (IIA, COSO) and other. The answers summarized in the Table 18.

The participants pointed out that, in general, all the factors given in the alternatives manipulate the risk management activities. Additionally, it is understood that the shareholders’ expectations and intuitional management principles, with proportion of 86.5 % (the addition of the proportions of ‘I agree’ and ‘I don’t agree’ alternatives) manipulate the risk management activities more than others. And it is also seen that, among the factors ordered, the demands of customers/consumers 17.3 % and international standards or frames 9 % (total proportion of ‘I totally agree’ and ‘I don’t agree’) manipulates the risk management activities the least. During the evaluation of

Table18. Factors Manipulating Risk Management Activity

Your ideas on <u>the factors which manipulates</u> the management activities:	I totally disagree	I do not agree	On the fence	I agree	I totally agree
a) Legal factors	% 1,4	% 2,7	% 12,2	% 59,5	% 24,3
b) Shareholders’ expectations	% 2,8	% 4,2	% 5,6	% 66,2	% 21,2
c) Trade competition environment	% 1,4	% 2,8	% 9,9	% 59,2	% 26,8
d) Customer/consumer demands	% 1,4	% 15,9	% 17,4	% 43,5	% 21,7
e) Demands of the board of directors/upper directors	% 1,4	% 2,7	% 12,2	% 59,5	% 24,3
f) Institutional management principles	% 2,7	% 1,4	% 9,5	% 60,8	% 25,7
g) International standards or frames (IIA, COSO)	% 2,9	% 7,1	% 12,9	% 55,7	% 21,4
h) Other					

Table 19. Risk Defining Activities

	Frequency	Percentage
<b>Yes</b>	48	63,2
<b>No</b>	28	36,8
<b>Total</b>	76	100,0

the table, the addition of the alternatives; 'I agree', 'I totally agree' and 'I totally disagree', 'I do not agree' taken into consideration and the background colour given in black.

13. The question "Have the risk defining activities been done in your company for the last two years?" asked to the participants and the results are shown in the Table 19.

That the globalization movements rise, the crisis is felt heavily all over the world today and the other factor, makes it necessary to have the risk defining activities up-to-dated more frequently. In this manner, it was determined from the answers that during the last two years, the risk defining studies were completed with a proportion of 63.2 %.

14. The answers, asked to find out by whom the risk defining studies were made, are shown in the Table 20.

It is understood from the answers that the risk defining studies and the internal auditing unit substituted by risk management unit, with proportions of heavily 31.3 % and

Table 20. The People Performing Risk Defining Studies

	Frequency	Percentage
<b>By counsellors out of the company</b>	3	6,3
<b>By risk management unit</b>	15	31,3
<b>By internal auditing unit</b>	7	14,6
<b>After brainstorming activities of directors</b>	6	12,5
<b>Other</b>	17	35,4
<b>Total</b>	48	100,0

14.6% respectively, performed these studies. Additionally, it was understood from the results in detail that 19 % of those who chose "other", performed the risk defining activities with risk management and internal auditing units and nearly 25 % of them, determined the risk defining in a brainstorming study consisted of internal auditing unit staffs and their managers.

15. The answers to the question "Who is the responsible for ERM activities as a whole?" are given in the Table 21.

It is understood that mainly CEO/ General Manager is responsible for the ERM activities with a proportion of 30.3 % and is followed by board of directors in 22.4 %. And the internal auditing managers and risk managements are also 7.9 % equally responsible. As can be seen in the table, the number of the questions than was not answered by the participants, which is

Table 21. ERM Responsibility

	Frequency	Percentage
<b>CEO/General Manager</b>	23	30,3
<b>Board of Directors</b>	17	22,4
<b>Financial Director</b>	5	6,6
<b>Internal Auditing Manager</b>	6	7,9
<b>Risk Manager</b>	6	7,9
<b>Line Management</b>	2	2,6
<b>Lost Data</b>	17	22,4
<b>Total</b>	76	76

named as "Lost Data" is 17. This number becomes understandable when evaluated together with "Enterprise Risk Management Stage" shown in the table 17. ERM stage examined in the table and the result is that totally 20 companies either do not use ERM system or they are in planning stage. In other words, in the companies of the participants,

Table 22. The Effectiveness of Internal Auditing Unit in ERM Process

ERM Process	Internal Auditing Manager / Member (Piece)	Internal Auditing Manager/ Member (%)	Other Related Person (Piece)	Other Related Person (%)
Risk Defining	12	22,6	41	77,4
Analyze of Risks and their Evaluation	15	26,3	42	73,7
Determining Risk Behaviour	8	10,5	45	59,2
Reporting and Observation	33	50,0	33	50,0
Risk Management Activities in General	9	15,0	51	85,0

who did not answered 17 questions in which ERM responsibility was asked, either ERM is not used or is still in planning stage.

16. The answers to which the question asked in order to determine the effectiveness of internal auditing in execution process of “risk defining”, “analyze of risks and their evaluation”, “determining risk behaviour”, “reporting and observation” and “risk management activities in general” are summarized in the Table 22.

As seen in the Table 22, which sums up participants’ answers, the field that internal auditing unit heavily supports is the reporting and observing with 50 % proportion. Reporting and observing activities are followed by the analyzes of risk and their evaluating with a 26.3 % proportion, risk defining 22.6 %, enterprise risk management activities in general with 15 % proportion and lastly determining risk behaviour with 10.5 % proportion.

That carrying out reporting and observing activities from out of related unit independently and objectively is necessary in respect to the enterprise principles of objectiveness and transparency.

In this manner, it is hoped that in the years to come, reporting and observing activities in risk management system will be left to internal auditing units in high proportions.

The other related people, who carry out the activities mentioned above, are classified as; CEO/General Manager, Board of Directors/Auditing Committee, Finance Director/Member, Risk Director/Member, Line Director/Member.

With this knowledge, it was determined that 56 % of other related people carrying out risk defining activities (41 people) are Finance Directors/Members and 39 % are Risk Directors/Members.

It was also determined that 61 % of those (42 people) related people who carried out the analyzes of risks and their evaluation, are Finance Directors/Members, and 30 % are Risk Directors/Members.

Determining risk behaviour is on senior management activity as it is stated in internal auditing standards and it’s responsibility belongs to senior management. Internal auditing unit must act within it’s boundary in the process of determining the risk behaviour. Related with the standard framework, in practice, it was seen that risk behaviour is formed mainly by CEO/General Manager (66 %) and Board of Director/Auditing Committee (17 %).

Other related people who carry out reporting and observing activities (33 people) are Finance Directors/Members (25 %) and Risk Managers/Members (25 %).

Generally, it is clear that the other related organs performing enterprise risk management activities are (51 people) CEO/General Manager (47 %) and Board of Directors/Auditing Committee (31 %).

In the study, previously mentioned and done by PricewaterhouseCoopers in global scale; it was searched who had the responsibility for enterprise risk management activities on organization level and 32 % of participants responded that internal auditing unit did so (PricewaterhouseCoopers, 2007). Within this frame, it is seen that in Turkey study, internal auditing units undertake the responsibility of enterprise risk management with 15 % proportion. According to PricewaterhouseCoopers study, risk evaluating activities are performed by the internal auditing unit with 36 % proportion (PricewaterhouseCoopers, 2007). However, in Turkey, the results show that risk evaluations are made by internal auditors with 26 % proportions. It is estimated that the gap which seems in opposition to the internal auditing in Turkey, will be closed in the years to come.

17. The participants were asked “What are the risks taken into consideration while internal auditing plan is being prepared?” and the responses received, shown in the Table 23.

For the question on the risks taken into consideration while internal auditing plan is being prepared, 89.4% of the participants told that they considered financial risks, 84.2% of them considered operational risks, 53.9% considered strategic risks, 43.3% considered reputation risks, also 47.3% considered information technology risks and lastly 34.2% of them considered organizing risks.

This question was asked in order to

*Table 23. The Risks Taken Into Consideration While Internal Auditing Plan Is Being Prepared*

	Yes	No	Being Considered Percentage
<b>Financial Risks</b>	68	8	89,4
<b>Operational Risks</b>	64	12	84,2
<b>Strategic Risks</b>	41	35	53,9
<b>Reputation Risks</b>	36	40	47,3
<b>IT Risks</b>	36	40	47,3
<b>Organising Risks</b>	26	50	34,2

determine the effect of ERM on internal auditing, and as it was expected, the result showed that the internal auditing unit is interested in several risks including specific risks, and it is taken into consideration at the stage of planning of auditing. The results also show that in combination process of ERM and internal auditing, there have been some positive developments.

18. Participants were wanted to answer what kind of methods they use in risk management. In this manner, the alternatives known as basic risk management methods were given (Collier and others, 2007):

- Brainstorming, script analyzes and SWOT analyzes;
- Interview and questionnaire;
- Possibility/Effect matrix.

Known as technical methods frequently applied in risk management:

- Stochastic modelling and statistical analyzes;
- Risk management software.

5 point Likert scale applied to the answers of the participants and the results are presented in the Table 24.

In addition to basic and technical differentiation of risk management activities, when the alternatives; “Experience,



Table 24. Risk Management Techniques Used

	N	Minimum	Maximum	Average	Standard Deviation
<b>Experience, Judgement</b>	63	2,00	5,00	4,0000	0,84242
<b>Using Internal Auditor or Independent Counsellor</b>	59	1,00	5,00	3,8475	1,11128
<i>Brainstorming, Scenario Analyzes, SWOT Analyzes</i>	62	1,00	5,00	3,7581	1,00304
<i>Interwiev, Questionnaire</i>	57	1,00	5,00	3,1228	1,26872
<i>Possibility/Effect Matrix</i>	58	1,00	5,00	3,0690	1,29591
<b>Stochastic Modelling and Statistical Analyzes</b>	55	1,00	5,00	3,2364	1,23174
<b>Risk Management Software</b>	46	1,00	5,00	2,6739	1,59240

Judgment” and “Using internal auditor or independent counsellor” are examined as different headings, the following results are seen.

	Average
Basic Methods	3.32
Technical Methods	2.95
Experience, Judgment	4
Using Internal Auditor or Independent Counsellor	3.85

With these results, while “Experience and Judgment” is the most widely applied method with a 4.00 average, it is followed by Internal Auditor or using Independent Counsellor with 3.85 average. The proportion of using Basic Methods is 3.32; however Technical Methods comes the last with an overage of 2.95.

These results show that in Turkey, experiences and judgments highly accepted by people or they sometimes use internal auditor or independent counsellor in risk management process. In other words, experiences and personal judgments are in the foreground rather than numerical techniques in evaluating the risks.

19. The question “In which stages are Enterprise Based Risks taken into consideration in internal auditing activities in

your company?” was asked to the participants and the results shown in the Table 25.

As understood from the Table 25, 51.3 % participants pointed out that enterprise based risks are taken into consideration in all stages of internal auditing. Yet the 13.2 % of participants responded the contrary.

20. The participants were asked the question “How could you define your company’s auditing culture from 4 different points of view? (Walker and others, 2002)” and they were wanted to answer according to the alternatives: “Auditing Approach”, “Role of Auditor”, “Focus point of Auditing” and “Qualifications of Auditor”. In order to answer this question, the participants were given 5 point Likert scale and the answers are shown in the Table 25.

Table 25. The Stages Enterprise Based Risks Used in Auditing

	Frequency	Percentage
<b>Not taken into consideration</b>	10	13,2
<b>On planning stage</b>	16	21,1
<b>On reporting and observing stage</b>	11	14,5
<b>On all stages</b>	39	51,3
<b>Total</b>	76	100,0

Table 26: Defining Enterprise Auditing Culture

	Average	Standard Deviation
<b>Auditing Approach</b>	3,6986	1,13877
<b>Auditor's Role</b>	3,8630	,88687
<b>Focus Point of Auditing</b>	3,6438	1,04576
<b>Auditor's Qualifications</b>	3,4795	1,10692

If the total scores on participant level:

- is between 15-20; enterprise internal auditing department carries out ERM activities or undertaken the role of leading counsellor or is ready for ERM based internal auditing,
- is between 10-14; internal auditing unit is not working ERM based however trying to perform,
- is between 4-9; the risk management system is seen as a function based on insurance.

The total addition of the evaluations made from 4 different points of view was found as 14.68. This shows, from participants' point of view, that internal auditing units do not work ERM based yet, on the other hand, the companies are about to finish their preparations for this purpose.

### 5.6. General Evaluating on Questionnaire

The results, in general, show that the required steps towards risk management based working in internal auditing have been taken in Turkey, yet, the effectiveness of internal auditing units on ERM stages, to illustrate, taking all risks into consideration and evaluating the effectiveness of risk management, are still low.

Enterprise risk management maturity

level is shown on the horizontal line and the focus point of auditing on vertical line.

The Figure 2, represents the data received from evaluating the questionnaire mainly from the tables 17, 21, 22 and 26. That the internal auditing works on the data from risk management is, no doubt, related to the maturity level of risk management. In this process, the support of the enterprise internal auditing unit may differentiate in respect to the maturity level of risk management and role given to internal auditing unit by the senior management.

## 6. RESULT

The traditional working field of auditing has highly developed from error-focused approach into risk management based approach without leaving traditional one. That internal auditing activity takes data from risk management system contributes positively for traditional risk evaluating activity and makes it easy to transfer sources towards critical fields instead of auditing fields. On the other hand, internal auditing unit can perform counselling and assurance services towards risk management activity. The diversity of the service to be given is related to firstly enterprise risk management maturity then, the behaviour of senior management, the demands of auditing committee and internal auditing regulation.

As a result, the study shows that the internal auditing units in Turkey takes part in ERM process and gives assurance and counselling services for this process. Yet, it is a fact that there are significant lacks of practices compared to international ones.

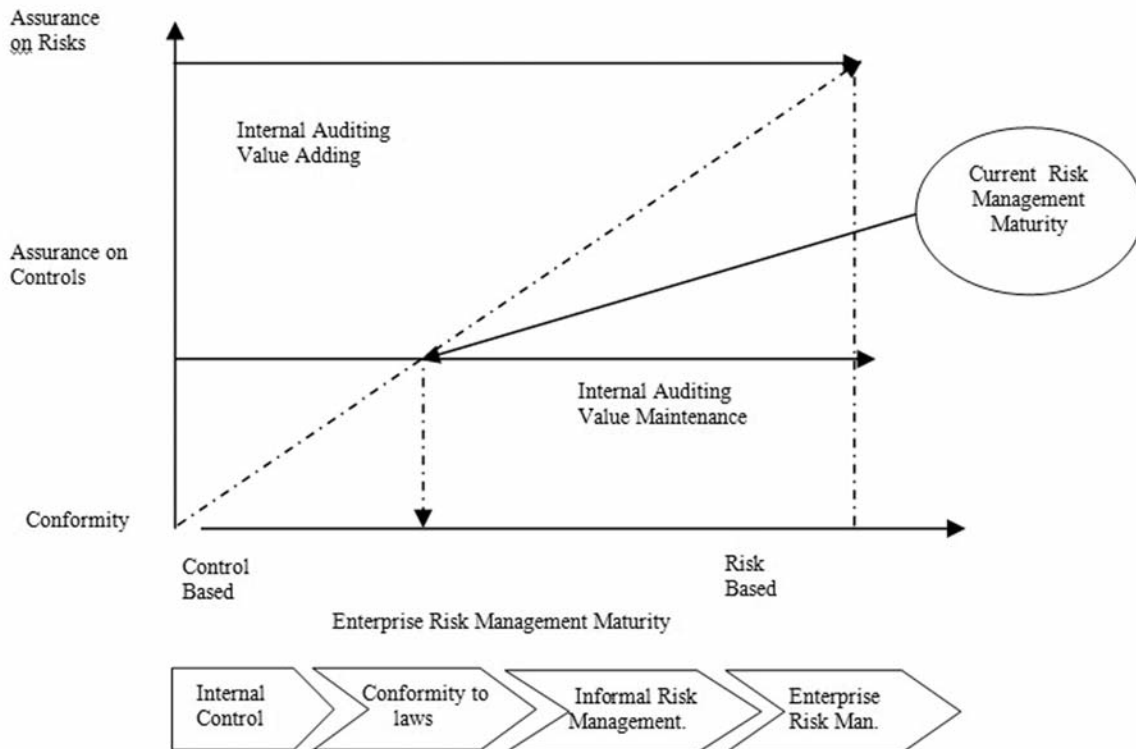


Figure 2. Internal Auditing in Turkey (Source: Taken from PricewaterhouseCoopers, 2007 and applied to the data of Turkey)

## ИНТЕРНИ АУДИТ ЗАСНОВАН НА УПРАВЉАЊУ РИЗИКОМ У КОМПАНИЈИ И ПРАКСА У ТУРСКОЈ

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### Извод

Разноликост у потребама компанија довела је до фокуса на променама особина интерног аудита у функцији времена. Као додатак контроли, првенствено корпоративно управљање а потом управљање ризиком, постају област интерног аудита. Могуће улоге одељења за интерни аудит у процесу управљања ризиком су основа ове студије.

Овај приступ, који се може дефинисати као Управљање ризиком на нивоу компаније - Enterprise Risk Management (ERM) - као основа са унутрашњи аудит, развијен је у студији на основу ERM оквира дефинисаног од стране COSO. Овај приступ омогућава трансфер података из ERM процеса ка аудиту.

Кључне речи: Управљање ризиком на нивоу компаније, Аудит

## References

- Akgul, A., & Cevik O. (2003). Statistical Analysis Techniques, Ankara, Emek Offset.
- Allegrini, M., & D'onza, G. (2003). Internal Auditing an Risk Assessment in Large Italian Companies: an Empirical Survey. *International Journal of Auditing*, 3: 191-208.
- Bankacılık Düzenleme ve Denetleme Kurulu (BDDK) (2006), Banking Internal Systems Legislation, 01.11.2006 date and 26333 number Official Newspaper.
- Beasley, M. S., Clune, R., & Hermanson, D. R. (2005). Enterprise risk management: An empirical analysis of factors associated with the extent of implementation. *Journal of Accounting Public Policy*, 24: 521-531.
- Collier, P. M., Berry, A. J., & Burke, G. T. (2007). *Risk and Management Accounting*, CIMA Publishing, UK.
- Fraser, I., & Henry, W. (2007). Embedding risk management: structures and approaches. *Managerial Auditing Journal*, 22: 392-409.
- Gramling, A. A., & Myers, P. M. (2006). Internal Auditing's Role in ERM. *Internal Auditor*. April 2006: 52-58.
- Griffiths, D. (2006). Risk Based Internal Auditing: An introduction, <http://www.internalaudit.biz>, Version 2.0.3.
- Griffiths, P. (2005). *Risk-Based Auditing*, USA, Gower Publishing.
- Gupta, P. P. (2001). *Internal Audit Reengineering: Survey, Model and Best Practices*, USA, The Institute of Internal Auditors Research Foundation.
- Kishali, Y., & Pehlivanlı, D. (2006). Risk Based Internal Auditing and ISE Application, *Muhasebe ve Finansman Dergisi*. Mart: 75-87.
- KPMG, (2008). *Research Results on Evolution of Risk and Controls*. International Enterprise Management Conference.
- McNamee, D. (1997). Risk Based Auditing. *Internal Auditor*, August, 22-27.
- McNamee, D., & Selim, G. (2006). *Changing Paradigm*, Mc2 Management Consulting, <http://www.mc2 consulting.com/riskart8.htm>, (17.11.2006).
- McNamee, D., & Selim, G. (1998). *Risk Management: Changing the Internal Auditor's Paradigm*, USA. The Institute of Internal Auditors.
- PricewaterhouseCoopers (2007). *Internal Audit 2012*, USA, PricewaterhouseCoopers.
- Selim, G., & McNamee, D. (1999). Risk Management and Internal Auditing: What are the Essential Building Blocks for a Successful Paradigm Change. *International Journal of Auditing*, 3: 147-155.
- Sobel, P. J. (2005). *Auditor's Risk Management Guide Integrating Auditing and ERM*, USA, CCH Incorporated.
- Stewart, G., & Kent, P. (2006). The use of internal audit by Australian companies. *Managerial Auditing Journal*, 1: 81-101.
- The Institute of Internal Auditors – UK & Ireland (2003). *Position Statement - Risk Based Internal Auditing*, UK, The Institute of Internal Auditors – UK & Ireland.
- The Institute of Internal Auditors – UK & Ireland (2005). *An Approach to Implementing Risk Based Internal Auditing*, Institute of Internal Auditors - UK & Ireland.
- Walker, P. L., Shenkir, W. G., & Barton, T. L. (2002). *Enterprise Risk Management: Pulling it all Together*, USA. The Institute of Internal Auditors Research Foundation.
- Yardımcı, E. (2008). Results of Development of Risk and Controls Survey, *International Conference on Corporate Governance*.