

T. C.
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SOSYAL BİLİMLER ENSTİTÜSÜ
İŞLETME ANABİLİM DALI
MUHASEBE FİNANSMAN (İNG.) BİLİM DALI

**SUPPORT OF CONTROL ENVIRONMENT AS A
COMPONENT OF INTERNAL CONTROL ON THE
AVOIDABILITY OF ACCOUNTING MISSTATEMENTS**

Doktora Tezi

FARUK ZİYA FIRAT

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Istanbul, 2008

Marmara Üniversitesi
Sosyal Bilimler Enstitüsü Müdürlüğü

Tez Onay Belgesi

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ÖZET

1994 COSO raporuna göre iç kontrolün ilk unsuru olan kontrol çevresi 9 etmenden oluşmaktadır. Bu etmenler, etik değerlere bağlılık, teşvikler ve ayartıcılar, ahlaki rehberlik, yetkinlik, yönetim kurulu veya denetim komitesi, yönetimin felsefesi ve işletme tarzı, örgütsel yapı, yetkilerin ve sorumlulukların tayini ve insan kaynakları politikaları ve uygulamalarıdır. Bu çalışma kapsamında, COSO raporundaki 9 etmen, 28 adet ilke ile açıklanmış ve bu etmenlerin ve ilkelerin etkin bir kontrol çevresindeki önceliği ve yaygın muhasebe yanlışlıklarının bu etmenler ve ilkelerle önlenebilirliği üzerine denetçilerin görüşleri incelenmiştir.

Denetçilerin sıklıkla karşılaştığı muhasebe yanlışlıkları ile kontrol çevresi etmenleri ve ilkeleri arası ilişkileri incelemek üzere, denetleme firmalarına, Sermaye Piyasası Kurulu'na ve Türkiye İç Denetim Enstitüsü üyelerine uygulanan anketten, denetçilerin muhasebe yanlışlıklarının çoğunluğunun etkin bir kontrol çevresi ile önlenebileceğine inandığı sonucu çıkmıştır. Regresyon analizlerinden ise muhasebe yanlışlıklarının yaklaşık yarısının önlenebileceği görülmüştür. Denetçiler, birçok önemli muhasebe yanlışlıklarının önlenmesinde, “yetkinlik” etmenini kilit etmen olarak işaretlemesine rağmen, regresyon analizleri sonucu çıkan, muhasebe yanlışlıklarının önlenmesi için önceliğin “örgütsel yapı” etmenine verilmesidir.

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ABSTRACT

Control environment, the primary component of internal control according to the COSO Report (1994), consists of nine factors. Such factors are integrity and ethical values, incentives and temptations, providing and communicating moral guidance, commitment to competence, board of directors or the audit committee, management's philosophy and operating style, organizational structure, assignment of authority and responsibility, and human resources policies and practices. In this study, 28 control environment principles were developed out of these nine factors and auditors' views on the priority of such factors and principles in an efficient control environment as well the avoidability of common accounting misstatements by such factors and principles were examined.

In order to examine the relationship between the audit-detected accounting misstatements and the control environment concepts, questionnaires were distributed to the leading audit firms operating in Turkey as well to Capital Market Board and Institute of Internal Auditors in Turkey. The results of the questionnaire have shown that auditors believe that most of the misstatements can be prevented by an efficient control environment. Based on regression results, it has been observed that almost half of the misstatements can be avoided. Although auditors' choices signaled "competency" as the key factor to prevent most of the common material misstatements, regression tests have shown that "organizational structure" must be given priority.

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ABBREVIATIONS

AAR	: Assignment of Authority and Responsibility Factor
AICPA	: American Institute of Certified Public Accountants
BD/AC	: Board of Directors or Audit Committee Factor
CFE	: Certified Fraud Examiner
CFSA	: Certified Financial Services Auditor
CIA	: Certified Internal Auditor
CIP	: Construction in Progress
CISA	: Certified Information System Auditor
CMB	: Capital Market Board
CML	: Capital Market Law
CobiT	: Control Objectives for Information and Related Technology
COSO	: The Committee of Sponsoring Organizations
CPA	: Certified Public Accountant
CPT	: Competence Factor
Deloitte	: Deloitte Touche Tohmatsu
EDP	: Electronic Data Processing
E&Y	: Ernst and Young
EU	: European Union
FASB	: Financial Accounting Standards Board
FCPA	: Foreign Corrupt Practices Act
FX	: Foreign Exchange
GAAP	: Generally Accepted Accounting Principles
GBP	: Great Britain Pounds
GL	: General Ledger
HR	: Human Resources
HRPP	: Human Resources Policies and Practices Factor
IAS	: International Accounting Standards

IEV	: Integrity and Ethical Values Factor
IIA	: Institute of Internal Auditors
IIAT	: Institute of Internal Auditors - Turkey
ISA	: International Standard on Auditing
ISE	: Istanbul Stock Exchange
IFAC	: International Federation of Accountants
IFRS	: International Financial Reporting Standards
IRI	: International Research Institute
ISACF	: Information Systems Audit and Control Foundation
IT	: Incentives and Temptations Factor
MG	: Moral Guidance Factor
MPOS	: Management Philosophy and Operating Style Factor
OS	: Organizational Structure Factor
PCAOB	: Public Company Accounting Oversight Board
PWC	: Price Waterhouse Coopers
SAC	: Systems Auditability and Control Report
SEC	: Securities Exchange Commission
SIAS	: Statement on Internal Auditing Standards
SM	: Serbest Muhasebeci (Certified General Accountant)
SMMM	: Serbest Muhasebeci Mali Müşavir (Certified Public Accountant)
SOX	: Sarbanes Oxley Act
SSI	: Social Security Institute
TFRS	: Turkish Financial Reporting Standards
TMS	: Turkish Accounting Standards
TRY	: New Turkish Lira
TPL	: Tax Procedure Law
US	: United States
VAT	: Value Added Tax
YMM	: Yeminli Mali Müşavir (Sworn-in Certified Public Accountant)

1. CONCEPT OF INTERNAL CONTROL

1.1. GENERAL OUTLOOK

Increasingly, we live in a society that emphasizes results. People seem not to be interested in the ongoing process but the results. Nevertheless, controlling and enhancing the process itself shall be the primary way to get the best results. That's one of the reasons why internal control has been of main interest to most businesses over the last few years. Adapting better internal controls would keep the company pegged to profitability goals and minimize delays and prevent other surprises on the way to targets. Internal controls enable management to deal with dynamic economic environment and keep up with the pace of competition. Through internal controls, efficiency can be maintained and risk of asset loss can be minimized. The company can produce more reliable financial statements in compliance with the prevailing laws and regulations as well as with the generally accepted accounting principles.

A system of internal control consists of policies and procedures designed to provide management with reasonable assurance that the company achieves its objectives and goals. These policies and procedures are often called controls and collectively, they comprise the entity's internal control.¹

Internal control is a process rather than an end result and therefore, it needs constant attention by people in an organization. Internal controls are most effective when they are built into the entity's infrastructure and are part of the essence of the enterprise; therefore, they should be built-in rather than built on.² People produce the internal control policy manuals and forms according to the needs and objectives of the organization and it is again up to people to put such manuals in practice. Consequently, existence and proper application of internal control manuals are to the benefit of the company as well as of the people in a company as they will consequently have a fairer work environment. Yet, it

¹ A.A. Arens and J.K. Loebbecke, **Auditing: An Integrated Approach**, Eighth Edition, Upper Saddle River NJ: Prentice Hall, 2000, p.288.

² The Committee of Sponsoring Organizations of the Treadway Commission (COSO), **Internal Control-Integrated Framework**, 1994, p.14.

should be noted that only a reasonable assurance, as opposed to an absolute assurance, is expected of an internal control.

According to PCAOB Auditing Standard (AS) 2,³ “An Audit of Internal Control Over Financial Reporting Performed in Conjunction with an Audit of Financial Statements”, the concept of reasonable assurance should be understood to mean that the likelihood that material misstatements will not be prevented or detected on a timely basis is remote-while not absolute, reasonable assurance represents a high level of assurance.⁴

ISA 400 “Risk Assessments and Internal Control”^{*} indicates that internal controls relating to the accounting system are concerned with achieving objectives such as the following⁵:

- *Transactions are executed in accordance with management’s general or specific authorization.*
- *All transactions and other events are promptly recorded at the correct amount, in the appropriate accounts and in the proper accounting period so as to permit preparation of financial statements in accordance with the applicable financial reporting framework.*
- *Access to assets is permitted only in accordance with management’s authorization.*
- *Recorded assets are compared with the existing assets at reasonable intervals and appropriate action is taken regarding any differences.*

ISA 315, “Obtaining an Understanding of the Entity and Its Environment and Assessing the Risks of Material Misstatement” states that the auditor should obtain an

³ Auditing Standard No. 2 is superseded by Auditing Standard No. 5 for fiscal years ending on or after November 15, 2007. http://www.pcaobus.org/Standards/Standards_and_Related_Rules/Auditing_Standard_No.2.aspx (14 May 2008).

⁴ J.H. Callaghan, A. Savage and S. Mintz, “Assessing the Control Environment Using a Balanced Scorecard Approach”, **The CPA Journal**, Vol.77, 3, 2007, p.58.

^{*} ISA 400, “Risk Assessments and Internal Control” was withdrawn in December 2004 when ISA 315, “Understanding the Entity and Its Environment and Assessing the Risks of Material Misstatement” and ISA 330, “The Auditor’s Procedures in Response to Assessed Risks” became effective.

⁵ IFAC, “**2008 Handbook of International Auditing, Assurance, and Ethics Pronouncements - Part I**”, IAASB Publications, 2008, p.709.

understanding of the entity and its environment, including its internal control, sufficient to identify and assess the risks of material misstatement of the financial statements whether due to fraud or error, and sufficient to design and perform further audit procedures.⁶ In order to understand the entity, the auditor must first comprehend specified aspects of the entity and its environment, and components of its internal control, in order to identify and assess the risks of material misstatement. As described in ISA 500, audit procedures to obtain an understanding are referred to as “risk assessment procedures” because some of the information obtained by performing such procedures may be used by the auditor as audit evidence to support assessments of the risks of material misstatement.⁷

Internal control may have various interpretations. Therefore, it would be important to clarify which definition of internal control will be adopted in this study:

*“Internal control is a process, the scope of which is determined by an entity’s board of directors, monitored and implemented by the managers and the personnel. It is designed to provide reasonable assurance in order to maintain the efficiency and effectiveness of operations, reliability of financial reporting and compliance with applicable laws and regulations”.*⁸

Key terms in this definition can be explained as follows:⁹ “Efficiency and effectiveness” is an entity’s basic business objective and includes performance and profitability goals and safeguarding of objectives. “Reliability of financial reporting” is provided through the preparation of reliable published financial statements, including interim and condensed financial statements and selected data derived from such statements, such as earnings releases reported to the public. “Compliance with applicable laws” deals with complying with those laws and regulations to which the entity is subject.

⁶ IFAC, p.347.

⁷ *ibid.*, p.349.

⁸ COSO, p.13.

⁹ *ibid.*

An effective internal control is an environment where competent people understand their responsibilities, the limits to their authority and are knowledgeable, mindful and committed to doing what is right and doing it the right way.¹⁰

The broader term of “internal control”, which extends to all areas of the management of an enterprise has been replaced by the SEC as “internal control over financial reporting” so that the scope would be limited to an entity’s consideration of internal control to the preparation of the financial statements. The term “internal control over financial reporting” is defined as a process designed by, or under the supervision of the issuer’s principal executive and principal financial officers, or persons performing similar functions, and effected by the issuer’s board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.¹¹

Internal control over financial reporting includes the following policies and procedures:¹²

(1) Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the issuer;

(2) Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the issuer are being made only in accordance with authorizations of management and directors of the issuer; and

¹⁰ University of California, **Understanding Internal Control: A Reference Guide for Managing University Business Practices**, p.4 <http://www.ucop.edu/ctlacct/under-ic.pdf> (08 April 2008).

¹¹ University of Cincinnati, “General Rules and Regulations Promulgated under the Securities Exchange Act of 1934”, <http://www.law.uc.edu/CCL/34ActRls/rule15d-15.html> (12 February 2008).

¹² M. Ramos, **How to Comply with Sarbanes-Oxley Section 404: Assessing the Effectiveness of Internal Control**, (e-book) John Wiley & Sons, 2004. p 17.

(3) Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the issuer's assets that could have a material effect on the financial statements.

SEC definition is also consistent with the objectives provided in the COSO Report¹³ referred to primarily in section 1.3..

1.2. LIMITATIONS OF INTERNAL CONTROL

Although internal control is often seen as a control mechanism fully ensuring that the entity will always achieve its operations, financial reporting and compliance objectives, it has certain limitations. A systems personnel may design the ideal internal control system for an organization, but its effectiveness depends on the competency and dependability of the people using it. For example, assuming that a procedure for counting inventory is carefully developed and requires two employees to count independently, if neither of the employees understands the instructions or if both are careless in doing the counts, the inventory count is likely to be wrong.¹⁴ Therefore, limitations of internal control must well be considered before embarking on an internal control mechanism for an organization.

First of all, it is important to emphasize the fact that internal control can only provide, as it has been stated in section 1.1., reasonable assurance but not absolute assurance for the objectives, which are efficiency and effectiveness of operations, reliability of financial reporting and compliance with applicable laws. Internal control sets different levels with respect to these different objectives and it can only help management be aware of the entity's progress or the lack of it. That is really important to note as general understanding is that internal control is established to help companies fully achieve their objectives. Yet, internal control is just a support for the achievement of operating, financial reporting and compliance objectives and consequently; it all boils down on people in the organization and on the management to achieve these objectives.

¹³ Ramos, p.18.

¹⁴ Arens and Loebbecke, p.288.

Nevertheless, certain factors are outside management's control. Events that are beyond the control of the organization (such as macroeconomic developments), accounting misstatements and problems with financial reporting may occur since human involvement can never be totally free from errors.

COSO's "Internal Control-Integrated Framework" cites five types of limitations:¹⁵

- *Judgment*
- *Breakdown*
- *Management Override*
- *Collusion*
- *Costs versus Benefits*

Judgment is the fact that in the absence of a specified regulation or when there is an extraordinary case to deal with, people have to use their judgments in making decisions and judgments are always prone to errors. In this respect, effectiveness of the internal control would be restricted with weaknesses in human judgement.¹⁶ Due to time constraints, availability of ready information and pressure of getting the job done as quickly as possible may hinder the person from making sound decisions. In the absence of time limits, pressures or strict deadlines, people could have time to have access to more data, consult their colleagues or experts in the given subject before embarking on a final decision and hence, give more sound decisions. However, most of the time, employees work within tight time constraints. While the auditors may be able to identify potential opportunities for fraud to be perpetrated, it is difficult, if not impossible, for the auditors to determine intent, particularly in matters involving management judgement, such as accounting estimates and the appropriate application of accounting principles.¹⁷

¹⁵ COSO, p.80.

¹⁶ *ibid.*

¹⁷ Hong Kong Institute of Certified Public Accountants, "SAS 110 The Auditors' Responsibility to Consider Fraud and Errors in an Audit of Financial Statements", 2004, p.3

On the other hand, no matter how well-designed internal control systems are, they are still prone to *breakdowns*. Breakdown signifies failure of the internal control system to be effective and they may occur due to personnel misunderstanding instructions, and/or personnel making judgment misstatements due to carelessness, distraction or fatigue.¹⁸ Hiring temporary personnel without training them strictly to follow the internal control procedures may also be a cause of a breakdown in the system.

Management override, as opposed to management intervention, includes bad intent¹⁹. In the presence of even most effective internal controls, top management can find a leeway to override internal control. The leeway exists due to the fact that not all decisions can be controlled through pre-specified codes. There are certain cases where the management has to make a decision on a new subject or on a subject where nobody else in the entity has knowledge about. In such a case where knowledge of a certain subject is exclusive to the manager, it would not be easy to verify or control the manager's acts.

In certain cases, overruling prescribed rules is inevitable. If overruling is done for legitimate purposes, this is called "management intervention" but if overruling is done for illegitimate purposes, then it is called "management override".²⁰ Management may override controls to intentionally misstate the nature and timing of revenue or other transactions by (1) recording fictitious business events or transactions or changing the timing of recognition of legitimate transactions, particularly those recorded close to the end of an accounting period; (2) establishing or reversing reserves to manipulate results, including intentionally biasing assumptions and judgments used to estimate account balances; and (3) altering records and terms related to significant or unusual transactions.²¹ Management intervention, on the other hand is necessary in certain cases in order to give quick decisions and not to fall behind the competitors and lose customers. Non-standard or one-off transactions usually call for an intervention. Management's actions to intervene are

¹⁸ COSO, p.81.

¹⁹ *ibid.*

²⁰ *ibid.*

²¹ AICPA, "Management Override of Internal Controls: The Achilles' Heel of Fraud Prevention", AICPA Inc., 2005, p.2

generally overt and commonly documented or otherwise disclosed to appropriate personnel, whereas, actions to override usually are not documented or disclosed, with an intent to cover up the actions.²²

The fourth type of limitation is *collusion*. Collusive activities occur among two or more individuals, who get together or act in cooperation for a common objective. In this respect, the term “collusive activities” is used to refer to those individuals working in the same organization and acting together in order to conceal an adverse action from being detected.²³ Such individuals act together to manipulate the internal control system in order for their personal gains. For example, when tight budgetary controls are in place, sales department may collude with the inventory department to boost sales volumes so that the anticipated targets can be met.

Cost is another limitation of internal control. Costs attached to establishing and running an internal control must be well analysed. Tangible as well as intangible costs, such as risk of failure, opportunity costs and the potential effect of internal control on the entity must be considered. For example, an internal control on marketing expenses, which do not constitute more than 5% of all operating expenses, would not be cost beneficial. That is to say, materiality level of factors which will be subject to internal control is important. Moreover, direct costs, in addition to indirect costs, must be reviewed. In a conservative approach, it would be wise to consider adding the opportunity costs. However, it is not easy to quantify such intangible costs all the time. Benefits from the internal control are also hard to quantify as such benefits are also intangible. Nature of the business helps determine the extent to which internal control systems must take place. A JIT oriented entity would not pay off for an internal control on inventory, whereas; an inventory-intensive entity, such as a cement producer would need control on inventory. Therefore, costs and benefits from the internal control must be thoroughly gauged in order to come up with the decision to apply internal control in the departments. Finally, it's a

²² COSO, p.81

²³ *ibid.*

fact that excessive control is costly and may slow the process rather than help it flow, whereas; too little control would facilitate fraud and the number of errors would increase. The right balance rests on human judgment, which is again prone to errors as stated above in the “judgment” section. With more experience in the sector, companies shall find the right balance between cost and benefit.

1.3. DEVELOPMENT OF INTERNAL CONTROL

Victor Z. Brink was one of the first authors to emphasize the importance of internal control in the December 1946 edition of the “Internal Auditor”, a periodical published by IIA. The author established several important precepts that are valid today. In those years, he pointed out to the importance of internal functioning as follows:²⁴

“It is highly appropriate that those persons responsible for the internal organization and operation of American business should turn in this postwar period to a reexamination of the principles and procedures by which the proper internal functioning is more assured”.

Internal control was defined by Brink as a term which has often been narrowly construed to apply only to matters which directly affect accounting and that a more realistic view, however, is to relate it to the efficiency of all the company’s internal procedures and policies insofar as those internal procedures and policies deal with the acquisition, handling or disposition of the company’s assets, or insofar as they relate to the general financial operation of the company.²⁵

Late 1970’s and early 1980’s was an era of many major organization failures in the US due to high inflation, the resultant high interest rates and high energy costs as a result of excessive government regulation.²⁶ Therefore, in 1977, based on recommendations of the

²⁴ W.G. Bishop, “Internal Control-What’s That?”, **The Internal Auditor**, Vol.48, 3, 1991, p.117.

²⁵ Bishop, p.118.

²⁶ R.M. Moeller, “**Sarbanes-Oxley and the New Internal Auditing Rules**”, John Wiley and Sons, Inc., 2004, p.123.

SEC; the FCPA was enacted by the United States Congress.²⁷ The FCPA codified the accounting control provisions contained in the Statement of Auditing Standards No. 1²⁸ (codified as AU §320 in the Codification of Statements on Auditing Standards). Under the FCPA, companies that have a class of securities registered under Section 12 of the Exchange Act or that are required to file reports under Section 15(d) of the Exchange Act, are required to devise and maintain a system of internal accounting controls sufficient to provide reasonable assurances that:²⁹

- *transactions are executed in accordance with management's general or specific authorization;*
- *transactions are recorded as necessary (1) to permit preparation of financial statements in conformity with generally accepted accounting principles or any other criteria applicable to such statements, and (2) to maintain accountability for assets;*
- *access to assets is permitted only in accordance with management's general or specific authorization;*
- *the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.*

In 1978, the IIA promulgated a broader view of control. According to the General Standard 300, “Scope of Work”, the scope of the internal audit was stated to encompass the examination and evaluation of the adequacy and effectiveness of the organization’s system of internal control. Furthermore, the specific standards and guidelines in Section 300 have indicated that the primary objectives of internal control are to ensure; reliability and integrity of information, compliance with policies, plans, procedures, laws and regulations, safeguarding assets, economical and efficient use of resources, accomplishment of established objectives and goals for operations or programs.³⁰

²⁷ Sarbanes-Oxley, Financial and Accounting Disclosure Information, 2003, http://www.sarbanes-oxley.com/displaysection.php?level=2&pub_id=SEC-Rules&chap_id=SEC14&message_id=286, (12 April 2008).

²⁸ PCAOB, “Standards”, <http://www.pcaobus.org/Standards/index.aspx> (12 April 2008).

²⁹ University of Cincinnati, “Securities Exchange Act of 1934”, <http://www.law.uc.edu/CCL/34Act/sec13.html>.

³⁰ Bishop, p.119.

In 1983, the IIA further advanced the understanding of control by issuing SIAS No.1 “Control-Concepts and Responsibilities”.³¹

In 1985, the Treadway Commission was formed to study the financial reporting system in the United States and two years later, the Commission issued a recommendation report stating that its sponsoring organizations work together to integrate the various internal control concepts and definitions and to develop a common reference point to all users. The commission’s first report, released in 1987, called for management reports on the effectiveness of their internal control systems and emphasized the key elements of an effective system of internal controls, including a strong control environment, a code of conduct, a competent and involved audit committee and a strong internal audit function as well as the need for a consistent definition of internal control.³²

In response, the COSO conducted a major research on internal control through literature search, one-on-one interviews with the knowledgeable individuals, questionnaires, workshops, public exposure to managements and other interested parties, field testing and additional exposure and meetings.³³ The research was to establish a common definition that would serve the needs of companies, independent public accountants, legislators and regulatory agencies, and to provide a broad framework of criteria against which companies could evaluate the effectiveness of their internal control systems.

In 1988, AICPA published SAS No.55 followed by SAS No.78 in 1995 to provide guidance to external auditors regarding the impact of internal control on planning and performing an audit of an organization's financial statements.³⁴ Internal control was described in terms of three major components; control environment, accounting system and control procedures.

³¹ Bishop, p.119.

³² Moeller, p.123.

³³ COSO, p.99.

³⁴ J.L. Colbert and P.L. Bowen, “A Comparison of Internal Controls: COBIT, SAC, COSO and SAS 55/78”, **IS Audit and Control Journal**, Vol.4, 2006, p.26.

In 1991, the IIA Research Foundation issued SAC, which was further revised in 1994, in order to provide control guidance for information technology.³⁵ The report defined internal control as a means to provide reasonable assurance that the overall objectives of the organization are achieved in an efficient, effective and economical manner. SAC dealt only with those objectives impacted by the organization's information systems, including integrity of information used for decision making processes, the security and protection of the organization's information technology assets and compliance with internal and external procedures and regulations.³⁶

In 1992, COSO published its Internal Control - Integrated Framework, which defined internal control as a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in three categories: effectiveness and efficiency of operations; reliability of financial reporting; and compliance with applicable laws and regulations.³⁷ The definition follows the same theme Brink used as a definition of internal auditing in his first 1943 edition of *Modern Internal Auditing* and all subsequent editions; "internal auditing is an independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization."³⁸ The COSO definition of internal control is now generally recognized as the world's internal accounting control standard.³⁹

According to COSO, components of internal control are control environment, risk assessment, control activities, information and communication, and monitoring. The scope of internal control therefore extends to policies, plans, procedures, processes, systems,

³⁵ M.B. Curtis and F.H. Wu, "The Components of a Comprehensive Framework of Internal Control", **The CPA Journal**, Vol.70, 3, 2000, p.64.

³⁶ *ibid.*

³⁷ COSO, p.16.

³⁸ Moeller, p.125.

³⁹ *ibid.*, p.124.

activities, functions, projects, initiatives, and endeavors of all types at all levels of a company.⁴⁰

In 1995, AICPA incorporated the definition of internal control set forth in the COSO Report in Statement on Auditing Standards No.78 (codified as AU §319 in the Codification of Statements on Auditing Standards)⁴¹ as follows:

“Internal control is a process—effected by an entity’s board of directors, management, and other personnel—designed to provide reasonable assurance regarding the achievement of objectives in the following categories: (a) reliability of financial reporting, (b) effectiveness and efficiency of operations, and (c) compliance with applicable laws and regulations.”

This standard is effective for audits of financial statements for periods beginning on or after January 1, 1990, unless otherwise indicated.⁴²

Apart from COSO, CobiT, which is another important audit and control framework that can stand by itself or serve as a supplement to both the COSO and IIA Standards⁴³ was also a milestone in the development of internal control. CobiT was issued by the CobiT Steering Committee and the ISACF in 1996 to serve as a framework of generally applicable and information systems security and control practices for information technology control. The first and last letters of CobiT are intentionally written in capital letters as its emphasis is on control (letter “C”) and technology (letter “T”). CobiT, which had control objectives beyond the business objectives defined by COSO and SAS No’s. 55 and 78, was advised to all internal auditors such that auditors shall understand and use it as a tool for reviewing and understanding internal control with an emphasis on information systems controls.⁴⁴

⁴⁰ SEC, Final Rule: Management's Report on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, 2003, <http://www.sec.gov/rules/final/33-8238.htm> (16 April 2008).

⁴¹ M.A. Geiger, S.M. Cooper, and E.J. Boyle, “Internal Control Components: Did COSO Get It Right?”, 2008, p.28, **The CPA Journal**, <http://www.nyscpa.org/cpajournal/2004/104/text/p28.html> (02 November 2008).

⁴² AICPA SAS no.78, **Consideration of Internal Control in a Financial Statement Audit**, http://www.pcaobus.org/standards/interim_standards/auditing_standards/au_319.html (21 April 2008).

⁴³ Colbert and Bowen, p.29.

⁴⁴ Curtis and Wu, p.65.

The new Statutory Audit Directive, which was adopted in May 2006 to be implemented by Member States on 29 June 2008, has expanded the scope of the requirements in the audit area from the 8th Company Law Directive which it replaced and in particular key provisions have been introduced in areas such as auditing standards, public oversight, auditor independence, third country auditors, definition of a network and ownership and control of audit firms.⁴⁵

To sum up, increased attention has been given to internal control by auditors, managers, accountants and legislators over the years, mainly by ISACF's CobiT, the COSO's Internal Control-Integrated Framework, IIA Research Foundation's SAC and the AICPA's Consideration of the Internal Control Structure in a Financial Statement Audit (SAS 55), as amended by Consideration of Internal Control in a Financial Statement Audit: An Amendment to SAS 55 (SAS 78) and recently, by the EU's new Statutory Audit Directive. There were similarities as well as differences among CobiT, COSO and SASs 55/78.⁴⁶ Primary audience of CobiT was management, users and information system auditors whereas; COSO was mainly targeted for management, SAC for the internal auditors and SAS 55/78 for the external auditors. CobiT and SAC focused on information technology; whereas, COSO and SAS 55/78 focused on overall entity and financial statement, respectively. However, all assigned responsibility for the internal control system on the management and all viewed effective and efficient operations as well as compliance with laws and regulations as primary objectives of internal control.

As for the case in Turkey, currently, intermediary institutions and investment partnerships are to establish an internal control system; however, internal control has not yet been made compulsory for all quoted companies due to concerns about cost and

⁴⁵ The Institute of Chartered Accountants in England and Wales, "Up-date on the EU Statutory Audit Directive (2006/43/EC)", p.1, http://www.icaew.com/index.cfm/route/144792/icaew_ga/en/Technical_amp_Business_Topics/Topics/Audit_and_assurance/Text_and_updates_on_Statutory_Audit_revised_8th_Company_Law_Directive (22 November 2008).

⁴⁶ Colbert and Bowen, p.26.

benefit.⁴⁷ Yet, corporate governance principles announced by the CMB state that the annual reports of companies shall include internal control system and the declaration of the board of directors that the system is running efficiently. In addition, the annual report shall include the auditor's view on the company's internal control system.⁴⁸ Internal control is indirectly pronounced in the CMB Communique Serial X, No:22: Audit Committees must be established by quoted partnerships (except for banks) and such committees are to supervise the accounting system, disclosure of the financial information, independent audit and the internal control system.⁴⁹

1.4. SARBANES-OXLEY ACT OF 2002

This act, also known as the Public Company Accounting Reform and Investor Protection Act of 2002 and commonly called SOX,⁵⁰ was enacted on July 30, 2002. The main driving force behind the need of this law was the major corporate and accounting scandals, in which companies like Enron, Tyco International, Adelphia, Peregrine Systems and WorldCom were involved. Arthur Andersen, the auditor of Enron, bailed out after the scandal, whereby; the audit company was blamed for not paying sufficient care in the audit of Enron. Several others suffered financial collapse shortly after the release of favorable financial reports, signed by external auditors, showing adequate earnings.⁵¹ Those scandals, which cost investors billions of dollars when the share prices of the affected companies collapsed and shook public confidence in the securities markets, were not purely due to problems with external audit. Internal control was certainly inadequate or the internal control was not objective but rather cooperative for the company's alleged frauds.

SOX was named after sponsors Senator Paul Sarbanes and Representative Michael G. Oxley and enacted all U.S. public company boards, management, and public accounting

⁴⁷ K.S. Babuçu, "The Role of Internal and Independent Auditing in the Attainment of Transparency in the Capital Market", **5th Annual International Accounting Conference: The Road to Transparency**, Istanbul, 13-15 November 2008.

⁴⁸ Sermaye Piyasası Kurulu, **Sermaye Piyasası Kurulu Kurumsal Yönetim İlkeleri**, 2005, p.27 <http://www.spk.gov.tr/displayfile.aspx?action=displayfile&pageid=66&fn=66.pdf> (02 December 2008).

⁴⁹ Deloitte, "CMB Communique Serial X, No:22, <http://www.denetimnet.net/pages.aspx?pgID=366> (13 October 2008), p.1.

⁵⁰ <http://www.e-sarbanesoxley.com/> (16 May 2008).

⁵¹ Moeller, p.123.

firms.⁵² The act, which does not apply to privately held companies, contains 11 titles, or sections, ranging from additional Corporate Board responsibilities to criminal penalties, and requires the SEC to implement rulings on requirements to comply with the new law.⁵³ A new quasi-public agency, the PCAOB, was established through SOX. PCAOB is in charge of overseeing, regulating, inspecting, and disciplining accounting firms in their roles as auditors of public companies. SOX also covers issues such as auditor independence, corporate governance, internal control assessment, and enhanced financial disclosure.⁵⁴

Although management of an entity has always been responsible for the planning and maintenance of the company's internal control, given the standards set forth such as by SOX, management has recently had more pressure to apply a more strict internal control. The added responsibility to annually evaluate, test and report on the entity's internal control over financial reporting has been in the aftermath of the enactment of the SOX.

Under the framework of the sections 302 and 404 of Sarbanes-Oxley, it has been made compulsory to determine the risks embedded in the companies' financial reporting, document and evaluate the controls associated with such risks and the company owners have been held utterly liable for the effectiveness of the controls.⁵⁵ Coercive penalties as a result of the Sarbanes Oxley laws have triggered the company owners to pay more attention on effectiveness of internal controls.

Section 302 requires the principal executive officer and the principal financial officer to certify and sign annual and quarterly reports submitted to the SEC, including certifying that those officers are responsible for establishing and maintaining internal controls.⁵⁶

⁵² <http://www.e-sarbanesoxley.com/> (16 May 2008).

⁵³ <http://www.e-sarbanesoxley.com/> (16 May 2008).

⁵⁴ SatiStar Corporation, "Sarbanes-Oxley Compliance", 2006, <http://www.satistar.com/expertise.php?ID=58> (11 June 2008).

⁵⁵ PWC, "Sarbanes Oxley Yasası'na Uyum", <http://www.pwc.com/extweb/challenges.nsf/docid/A24673A3B9D4E3498025716200405E5C> (13 May 2008).

⁵⁶ J. Zhang and K.Pany, "Current Research Questions on Internal Control over Financial Reporting under Sarbanes-Oxley", *The CPA Journal*, 2008, p.42.

Section 404 of the Sarbanes Oxley Act of 2002 requires companies subject to reporting requirements of the Securities Exchange Act of 1934, other than registered investment companies, to include in their annual reports a report of management on the company's internal control over financial reporting.⁵⁷ Both management and auditors are required to report to investors whether those controls are operating effectively – that is, whether the controls are sufficient to ensure that companies' financial statements are accurate.⁵⁸

A report of management on the company's internal control over financial reporting must include the following (A sample report is provided in Appendix 1):⁵⁹

- *a statement of management's responsibility for establishing and maintaining adequate internal control over financial reporting for the company.*
- *management's assessment of the effectiveness of the company's internal control over financial reporting as of the end of the company's most recent fiscal year.*
- *a statement identifying the framework used by management to evaluate the effectiveness of the company's internal control over financial reporting.*
- *a statement that the registered public accounting firm that audited the company's financial statements included in the annual report has issued an attestation report on management's assessment of the company's internal control over financial reporting.*

In addition, changes in the internal control over financial reporting that may have a material impact on the internal control must also be included. Material weaknesses are defined in AS 2 as control deficiencies that result in more than a remote likelihood that material misstatements in annual or quarterly financial reports will not be prevented or detected.

⁵⁷ SEC, "Final Rule: Management's Reports on Internal Control over Financial Reporting and Certification of Disclosure in Exchange Act Periodic (modified 2003), p.8, <http://www.sec.gov/rules/final/33-8238.html> (21 April 2008).

⁵⁸ M. Grothe et al., "The Materially Weak", **Yellow Card Trend Alert**, Glass, Lewis & Co., 2007, p.4.

⁵⁹ SEC, p.10.

A company that is an "accelerated filer",⁶⁰ as defined in Exchange Act Rule 12b-2, as of the end of its first fiscal year ending on or after June 15, 2004, must begin to comply with the management report on internal control over financial reporting disclosure requirements in its annual report for that fiscal year. In case that the company is an accelerated filer, the effective date of the legislation starts one year later. Yet, it is important to note that the effective dates stated above are compulsory and that companies may comply with the related legislation voluntarily before these dates.

After this law was passed, the SEC and the PCAOB created detailed guidance for internal control reporting in the form of AS 2, "An Audit of Internal Control over Financial Reporting Performed in Conjunction with an Audit of Financial Statements".⁶¹

Recently, SOX's internal control requirements have become controversial, because the companies complained about the costs involved and the perceived redundancy between the auditor's and management's tests of controls.⁶²

1.5. COSO REPORT

COSO report has been one of the milestones in the development of internal control. The following sections summarize the foundation of COSO, the contents of the COSO report as well as the components of internal control with a focus on control environment.

⁶⁰ The term "accelerated filer" means an issuer after it first meets the following conditions as of the end of its fiscal year:

- i. The issuer had an aggregate worldwide market value of the voting and non-voting common equity held by its non-affiliates of \$75 million or more, but less than \$700 million, as of the last business day of the issuer's most recently completed second fiscal quarter;
- ii. The issuer has been subject to the requirements of section 13(a) or 15(d) of the Act for a period of at least twelve calendar months;
- iii. The issuer has filed at least one annual report pursuant to section 13(a) or 15(d) of the Act; and
- iv. The issuer is not eligible to use Forms 10-KSB and 10-QSB for its annual and quarterly reports.

J. Hodnicki, "Securities Lawyer's Deskbook: General Rules and Regulations Promulgated Under the Securities Exchange Act of 1934", University of Cincinnati, p.1, <http://www.law.uc.edu/CCL/34ActRls/rule12b-2.html> (23 April 2008).

⁶¹ Zhang, p.42.

⁶² *ibid.*, p.43.

1.5.1. Foundation of COSO and the COSO Report

COSO was founded in 1985 with the aim of sponsoring the National Commission on Fraudulent Financial Reporting.⁶³ This national commission is an independent private sector initiative which studied the causal factors that can lead to fraudulent financial reporting and developed recommendations for public companies and their independent auditors, for the SEC and other regulators, and for educational institutions.⁶⁴ Fraudulent financial reporting is defined by the commission as intentional or reckless conduct, whether act or omission, that results in materially misleading financial statements.⁶⁵ The joint sponsors of the National Commission are five major professional associations in the United States, which are the American Accounting Association, the AICPA, Financial Executives International, The IIA, and the National Association of Accountants (which is now called the Institute of Management Accountants). However, the Commission is wholly independent of each of the sponsoring organizations, and contains representatives from industry, public accounting, investment firms, and the New York Stock Exchange.⁶⁶

COSO report has been the base source for entities to form an internal control system as it has been observed that the internal control systems of the majority of the large companies in the US have been created or modified according to COSO Integrated Framework.⁶⁷

1.5.2. Components of Internal Control by COSO

According to the COSO, internal control consists of five interrelated components; control environment, risk assessment, control activities, information & communication and monitoring.

⁶³ The Data Governance Institute, "About the COSO Framework: Background and Essential Facts, 2003-2006", http://www.sox-online.com/coso_cobit_coso.html (23 September 2008).

⁶⁴ *ibid.*

⁶⁵ COSO, "Report of the National Commission on Fraudulent Financial Reporting, 1987, <http://www.coso.org/Publications/NCFFR.pdf> (25 April 2008).

⁶⁶ <http://www.coso.org/> (11 April 2008).

⁶⁷ M. Demirbaş and S. Uyar, *Kurumsal Yönetim İlkeleri ve Denetim Komitesi*, Güncel Yayıncılık, 2006, p.118.

The main focus of this study will be the first component, namely the control environment and how it relates to the avoidability of common accounting misstatements.

The *control environment* is the first key component of an entity's internal control; it sets the tone of an entity, influences the control consciousness of people within an organization and is the foundation for all other components of the internal control system.⁶⁸ The control also has an influence on each of the three objectives and all activities.⁶⁹ Most of the job for a well-functioning control environment boils down to the top management's messages to the staff. That is, management emphasis on total quality and error-free output conveyed to the other levels of staff would facilitate the formation of a major control environment; whereas, a lenient management policy would cause the control environment to suffer from deficiencies.

Control environment factors as described by COSO are related to the following factors:⁷⁰

- *Integrity, ethical values and competence of the entity's people.*
- *Management's philosophy and operating style.*
- *The way management assigns authority and responsibility.*
- *The way management organizes and develops its people.*
- *The attention and direction provided by the board of directors.*

Risk assessment is the second component, which includes assessing the risks arising from both internal and external sources. A precondition to risk assessment is establishment of objectives, linked at different levels and internally consistent.⁷¹ After the understanding of the objectives, risk assessment identifies the relevant risks which may

⁶⁸ COSO, Internal Control-Integrated Framework, p.4.

⁶⁹ Moeller, p.126.

⁷⁰ COSO, p.3.

⁷¹ COSO, p.4.

occur during the course of achieving the objectives by forming a basis to manage the risks. Such a risk planning must be dynamic by nature and business plans must be revised on a constant basis.

Control activities comprise the policies and procedures taken by the management and the other relevant personnel in order to make sure management directives are carried out properly.⁷² Examples to control activities are approvals, verifications, end of period reconciliations, reconciliations with debtors, segregation of duties, authorizations, budgetary controls, reviews of operating performance and security of the assets of the entity.⁷³ An efficient control environment is a precedent for such control activities.⁷⁴

The fourth component is *information and communication*. ISA 315, “Obtaining an Understanding of the Entity and Its Environment and Assessing the Risks of Material Misstatement” has renamed this component as “the information system, including the related business processes, relevant to financial reporting and communication”.⁷⁵ Identification, capturing and producing information on a timely and orderly basis is important for the internal control. Operational, financial and investing activities of an entity are captured in the reports produced by the information systems. Such reports produced out of information systems must contain figures that are in compliance with the applicable rules and standards. Effective communication among the personnel, management’s key role in communicating clear messages to the personnel as to how important it is to take the control responsibilities seriously, each individual’s positive and serious approach to internal control responsibilities and the accessibility to senior personnel would contribute to the overall internal control system in a positive way. Moreover, an

⁷² N. Bozkurt, “Mali Tablolarda İşletme Yönetimi Tarafından Yapılan Muhasebe Hileleri”, Vol.9, 12, **Muhasebe ve Finansman Dergisi**, 2000, p.64.

⁷³ COSO, p.5.

⁷⁴ U. Mısırlıoğlu, “Gelirin Tanınma Kuralları ve Küresel Hatalar”, **Vergi Sorunları**, Vol.175, 2003, p.122.

⁷⁵ IFAC, p.381.

effective communication is necessary with external parties, including customers, suppliers, stakeholders, investors and regulatory bodies.⁷⁶

Monitoring is the last component of the internal control systems. Besides establishing an effective control environment, risk planning, control activities and the maintenance of good information and communication, the entity must do its best to monitor the internal control system in the most effective way. Ongoing monitoring as well as separate and sudden monitoring is integral to the effectiveness of the system. The degree of monitoring can be modified depending on the prevailing risks. In case certain deficiencies are detected during such monitoring activities, the upper management and if necessary, the board of directors must be informed and such activities be amended accordingly.⁷⁷

The effectiveness of the internal control is important for the inner dynamics of an organization as well as for the external auditors as they check the effectiveness of the internal control of an entity in order to come up with the right risk planning before they start their audits. The auditors must both evaluate management's assessment and additionally, they must perform their own tests of controls, including the control environment.

Internal control guides an entity in achieving its performance and profitability targets as well as in preventing loss of resources. Financial reporting can be done in a reliable way given that the internal control can be held effectively. Apart from reliable financial reporting and achievement of objectives, compliance with the applicable laws is maintained through internal control.

It must be noted that internal control can only help achieve the objectives, that is to say, internal control itself is not sufficient to achieve the objectives set by the management. As the former sentence implies, it all boils down to the management. Given a poor

⁷⁶ The IIA, "Applying COSO's Enterprise Risk Management-Integrated Framework", p.20, www.theiia.org/download.cfm?file=24193, (19 November 2008).

⁷⁷ COSO, p.6.

management, no internal control would guarantee achievement. Macroeconomic developments, such as economic recessions, political risks, competitors' actions would impede achievement no matter how effective an internal control is. However, through constant feedbacks about the entity's progress by internal control, a good management at least diversify those risks arising internally.

Faulty judgments in decision making and the occurrences of breakdowns due to petty errors would block the efficiency of internal control to produce a reliable financial reporting. Cost-benefit problems, collusion of two or more different department managers would also impede the results from internal control.

Reasonable assurance for the achievement of general objectives, including operations-relating to effective and efficient use of entity's resources, financial reporting-relating to preparation of reliable published financial statements and compliance-relating to the entity's compliance with applicable laws and regulations as well as specific objectives defined by each individual company, can be provided by internal control. However, given that the managers can have bad judgments or decisions or macroeconomic events out of the entity's control, achievement can be affected adversely.

Effectiveness of internal control is at different levels for different companies. Effectiveness is influenced by the reasonable assurance of the existence of the following factors:⁷⁸

- *Board of directors and management understand the extent to which the entity's operations objectives are being achieved.*
- *Published financial statements are being prepared reliably.*
- *Applicable laws and regulations are being complied with.*

⁷⁸ COSO, p.20.

In addition, all five components of internal control need to be present and functioning properly in order to determine that the internal control is effective. Yet, it must be noted that certain components may function at a higher level in certain entities and at a lower level in certain other entities and that some components may be “compensatory” and some “complementary”. “Compensatory” would mean that the existence of one of the components would make up for the lack of another component; whereas, “complementary” would mean the co-existence of two or more components to complement each other. The specific dynamics of an entity shall be the determining factor for the level of functioning.

General belief is that internal control is maintained through an effective management. However, internal control can indeed be achieved through cooperation of all the employees in an organization.⁷⁹ Managers, board of directors, internal auditors and all other personnel are an integral part of the internal control. In a large company, the chief executive manager provides leadership and control over the managers but in smaller organizations, the managers themselves control the organization. Management reports to the board of directors and is responsible for the implementation of the decisions taken and the guidance provided by the board of directors. For a board to be effective, the members should be knowledgeable about the entity’s operations.⁸⁰ The role of internal auditors is to evaluate the effectiveness of the control systems and maintain and contribute to a sustainable effectiveness. Personnel should be responsible for sending feedback to the management in case of a deficient internal control system causing non-compliance with the applicable laws and regulations and leading to breach of effectiveness.⁸¹

⁷⁹ S.A Holmes et al., “Associations Between Internal Controls and Organizational Citizenship Behaviour”, **Journal of Managerial Issues**, Spring 2002, p.1, <http://www.entrepreneur.com/tradejournals/article/85884300.html> (01 December 2008).

⁸⁰ G. Grossi, “Governance and Risk Management - Implications for Internal Auditors and Senior Managers”, **XII. Internal Audit Congress, Turkey: Developing and Enhancing Internal Audit**, Istanbul, 7 November 2008, p.42.

⁸¹ Grossi, p.47.

1.5.3. The Control Environment

The control environment reflects the overall attitude, awareness, and actions of the board of directors, management, owners and others concerning the importance of control and its profile in the entity.⁸²

Of the five components of internal control, the control environment may be the most critical, as well as the most difficult to manage and evaluate effectively.⁸³ Adding to the difficulty of the testing of the control environment is the fact that the control environment is not transaction-oriented and therefore, tests of controls auditors are accustomed to performing, such as walk-throughs or the reperformance of the control for a sample of items, will not be possible.⁸⁴ What most of the management or auditors do is focusing on the documentation, evaluation and testing of activity-level controls. Such controls include bank reconciliations, the matching of registries to invoices and computerized checks of data entered into the accounting system. However, as defined by the COSO framework, activity-level controls are just not adequate to have a proper internal control over financial reporting.

The COSO framework provides the criteria and the information needed on the control environment through its framework, however, the framework is rather general. It needs to be tailored by the individual efforts of each management to the specific work factors of the relevant organization.

Control environment influences other elements of the internal control, which are risk assessment, control activities, information and communication systems, and monitoring activities. The environment is formed by the organization's history and embedded culture present over the years. According to COSO Framework, effectively controlled entities strive to have competent people, instil an enterprise-wide attitude of

⁸² W.H. Webster, **Accounting for Managers**, New York: McGraw-Hill Trade, 2003, p.41.

⁸³ S.S. Lightle, J.F. Castellano and B.T. Cutting, "Assessing the Control Environment", **The Internal Auditor**, Vol.64, 6, 2007, p.51.

⁸⁴ M. Ramos, "Evaluate the Control Environment", **Online Journal of Accountancy**, May 2004, <http://www.aicpa.org/pubs/jofa/may2004/ramos.html> (22 June 2008).

integrity and control consciousness, set a positive “tone at the top” and establish appropriate policies and procedures, often including a written code of conduct, which foster shared values and teamwork in pursuit of the entity’s objectives.⁸⁵

1.5.4. Control Environment Factors

Control environment has nine factors as defined in the COSO report and such factors are as follows:⁸⁶

1. Integrity and Ethical Values (Is integrity valued? What are the ethical values of the company? Is there a code of conduct? Do incentive and compensation programs support ethical behaviour?)
2. Incentives and Temptations (Is there any pressure to meet unrealistic performance targets, particularly for short term results? Is the internal audit function so weak that it does not have the ability to detect and report improper behaviour?)
3. Providing and Communicating Moral Guidance (Is the code of conduct applied? Are there coercive measures against not complying with the generally accepted behaviours?)
4. Commitment to Competence (Does the company show a commitment to competence? Does it have procedures for ensuring competence, requisite skills, and knowledge for particular jobs?)
5. Board of Directors or Audit Committee (Do the audit committee and board of directors oversee accounting policies and practices? Is the committee or the board comprised of people with adequate qualifications?)

⁸⁵ COSO, p.23.

⁸⁶ Webster, p.23.

6. Management's Philosophy and Operating Style (What is the philosophy of the management? Is there a constructive attitude toward financial reporting? Is there a responsible approach to risk?)

7. Organizational Structure (Is the organizational structure clear on who assigns and who accepts responsibility and authority? Is the organizational structure in line with the company size and company risks?)

8. Assignment of Authority and Responsibility (Is the assignment of authority and responsibility appropriately managed? Is it specified as who will execute and approve transactions?)

9. Human Resource Policies and Practices (Are the human resource policies and procedures adequate to provide sufficient, competent personnel with adequate resources?)

ISA 315, "Obtaining an Understanding of the Entity and Its Environment and Assessing the Risks of Material Misstatement" highlights the fact that implementation of control environment elements would vary depending on the size of the entities. Small entities may implement the control environment elements differently than larger entities. For example, small entities might not have a written code of conduct but instead develop a culture that emphasizes the importance of integrity and ethical behavior through oral communication and by management example and that similarly; those charged with governance in small entities may not include an independent or outside member.⁸⁷

1.5.4.1. Integrity and Ethical Values

Preferences and value judgments, translated into standards of behaviour, reflect the management's integrity and its commitment to ethical values.⁸⁸ Integrity and ethical values are core elements of the control environment because the entities are managed on these

⁸⁷ IFAC, p.383.

⁸⁸ COSO, p.23.

values, which are good indicators of an effective internal control. Other internal control components are also based on integrity and ethical values.⁸⁹

Treadway Commission here below emphasized the importance of integrity as a prerequisite for ethical behaviour:

*“A strong corporate ethical climate at all levels is vital to the well-being of the corporation, all of its constituencies, and the public at large. Such a climate contributes importantly to the effectiveness of company policies and control systems, and helps influence behaviour that is not subject to even the most elaborate system of controls.”*⁹⁰

When an illegal or unethical behaviour is observed, it is often in the best interests of the entities to disclose the behaviour as opposed to slowly releasing the information to outside parties.

Focus on short term values, such as bottom line sales at the expense of ethical behaviour are usually coercive even in the short run. The entities may reach the desired sales for that period by smear campaigning their competitors but the sustainability of such sales will be very unlikely. Top management, and in larger organizations, the CEO plays a key role in the formation of the corporate culture, which includes ethical behaviour and management integrity in itself.

Code of conduct is an important way to convey the integrity and ethical values. However, it should not just stay in theory but in practice. The code of conduct describes the rules for ethical behaviour in an organization and senior members of management should transmit a proper ethical message throughout their organization.⁹¹

However, other incentives and temptations can erode this overall control environment as individuals may engage in dishonest, illegal or unethical acts if their

⁸⁹ J.E. Michelman and B.E. Waldrup, “Improving Internal Control Over Financial Reporting COSO’s Guidance Not Just for Public Companies Anymore”, **The Online CPA Journal**, 2008, p.1 <http://www.nyscpa.org/cpajournal/2008/408/essentials/p30.htm>, (12 May 2008).

⁹⁰ COSO, Report of the National Commission on Fraudulent Financial Reporting, p.35.

⁹¹ Moeller, p.128.

organization gives them strong incentives and temptations to do so.⁹² Such incentives and temptations are summarized in section 1.5.4.2. of this study.

Concepts that are likely to match this factor from the research by Haskins and Henarie⁹³ would be the following:

- Appropriateness of the client's actions in response to the Foreign Corrupt Practices Act of 1977.
- Compulsion on the part of the client's top, executive management for reporting the most favorable financial picture.

1.5.4.2. Incentives and Temptations

Incentives or temptations are actually related to “integrity and ethical values” in most ways. For instance, temptation to conduct illegal acts or engage in fraudulent behaviours would contrast integrity and ethical values. When management is interested solely on bottom end results, or short term profits, then, the staff tends to manage earnings.⁹⁴ Common incentives and temptations for fraudulent acts are as follows:⁹⁵

- *Pressure to meet unrealistic performance targets, particularly for short term results.*
- *High performance-dependent rewards.*
- *Upper and lower cut-offs on bonus plans.*
- *Nonexistent or ineffective controls, such as poor segregation of duties in sensitive areas, that offer temptations to steal or conceal poor performance.*
- *High decentralization that leaves top management unaware of actions taken at lower organizational levels and thereby reduces the chances of getting caught.*

⁹² *ibid.*

⁹³ Details of this research is provided in section 3.2. “Relevant Literature on Accounting Misstatements” of this study.

⁹⁴ J.R. Duncan, “Twenty Pressures to Manage Earnings”, **The CPA Journal**, July 2001, p.1, http://findarticles.com/p/articles/mi_qa5346/is_200107/ai_n21475553 (11 November 2008).

⁹⁵ Ramos, p.35.

- *A weak internal audit function that does not have the ability to detect and report improper behaviour.*
- *An ineffective board of directors that does not provide objective oversight of top management.*
- *Penalties for improper behaviour that are insignificant or unpublicized and thus lose their value as deterrents.*

Concepts that are likely to match this factor from the research by Haskins and Henarie⁹⁶ would be the following:

- Existence of factors that might motivate managers to circumvent or override existing controls (e.g. tight credit, low working capital, bonus plans, need to meet forecasts, decaying industry etc.).
- Effectiveness of physical safeguards over records and assets.

When we look at the results of the study conducted by COSO, we can see that the study has touched some very important factors. In organizations, there are written codes of conduct, but such codes are not usually applied especially in small to medium sized entities where staff are usually knit together on a friendly relationship. Hofstede defines this kind of societal value as weak uncertainty avoidance and low power distance.⁹⁷ Penalties are usually not publicized, therefore, they are not very coercive or they do not deter the other employees from doing the same illegal or unethical act. The same type of friendly relationship is probably correct for the internal auditors, as well, since most of the time, it has been observed that internal auditors do not act in an independent and objective way.

1.5.4.3. Providing and Communicating Moral Guidance

Ignorance can be defined as the lack of knowledge which results in people not knowing how to do the given task or erroneously believing that they are acting correctly. It can be another factor leading to fraudulent financial reporting. In cases where the staff is

⁹⁶ Details of this research is provided in section 3.2. “Relevant Literature on Accounting Misstatements” of this study.

⁹⁷ G. Hofstede, “**Culture’s Consequences**”, Sage Publications, Second Edition, 2001, pp.248-249.

not provided sufficient training or guidance, such faulty financial reports can be observed purely arising from ignorance, which does not include any good or bad intent.

Staff usually takes the managers as their role types so management's acts are usually observed by staff very carefully. Knowledge that the CEO has "done the right thing" ethically when faced with a tough business decision sends a strong message to all levels of the organization.⁹⁸

Code of conduct is a good way of guidance if all staff is to read and sign it, however, penalty for the failure to abide by the codes is even a better way of guidance.

Concepts that are likely to match this factor from the research by Haskins and Henarie⁹⁹ would be the following:

- Effectiveness of a client's communication of formal codes of conduct.
- Effectiveness of general EDP controls.

1.5.4.4. Commitment to Competence

Each individual is expected to have gained certain skills with regard to their tasks in the entity and competence is defined as the quality of being competent; adequacy; possession of required skill, knowledge, qualification, or capacity.¹⁰⁰ For certain jobs, minimum competence could be required, whereas; most of the jobs require high or specific competence. Sweeping the floors would not call for a high competence but analysing the figures on a balance sheet would need a long term experience and analytical skills. An organization's control environment can be seriously eroded if a significant number of positions are filled with persons who lack required job skills.¹⁰¹

⁹⁸ COSO, Internal Control-Integrated Framework, p.25

⁹⁹ Details of this research is provided in section 3.2. "Relevant Literature on Accounting Misstatements" of this study.

¹⁰⁰ <http://dictionary.reference.com/browse/competence> (13 June 2008)

¹⁰¹ Moeller, p.128

Management needs to specify the degree of competence required by each task after a careful examination of costs and benefits.

Concepts that are likely to match this factor from the research by Haskins and Henarie¹⁰² would be the following:

- Adequacy of a client's analysis of budget variances.
- Extent of knowledge on the part of the client's controller concerning FASB and SEC (where appropriate) guidelines.

1.5.4.5. Board of Directors or Audit Committee

ISA 315, "Obtaining an Understanding of the Entity and Its Environment and Assessing the Risks of Material Misstatement" renames this factor as "Participation by Those Charged with Governance".¹⁰³

Starting from the McKesson Robbins scandal in the 1940's until the enactment of the SOX in 2002, several developments have served to the current importance of the Audit Committee in the US.¹⁰⁴

In Turkey, CMB has defined Audit Committee as a committee formed of at least two members and which scrutinizes the financial and operating activities of an entity with frequent proposals.¹⁰⁵

According to Sherer and Turley, there is no accepted definition of an audit committee but most have the following features:¹⁰⁶

1. *It is a formally constituted subcommittee of the main board;*

¹⁰² Details of this research is provided in section 3.2. "Relevant Literature on Accounting Misstatements" of this study.

¹⁰³ IFAC, p.382.

¹⁰⁴ Demirbaş and Uyar, p.112.

¹⁰⁵ *ibid.*, p.111.

¹⁰⁶ M. Sherer and S.Turley, **Current Issues in Auditing**, Paul Chapman Publishing, 2004, p.74.

2. *It is composed exclusively, or predominantly, of non-executive directors but with the finance director, and representatives of the external and internal auditor, in attendance as appropriate;*

3. *It has responsibility for reviewing the financial statements and the accounting principles and practices underlying them, liaising with the external and internal auditors, and reviewing the effectiveness of internal controls.*

Board of Directors have a direct or indirect impact on the control environment.¹⁰⁷ Direct impact comes from the directors to the staff, whereas, indirect impact occurs when the directors convey their decisions to the managers who in turn set up the codes to organize the control environment. Especially in large companies, where there is both a Board of Directors and an Audit Committee, the Audit Committee takes on the role of scrutinizing the board and prevents the board from not paying adequate importance on internal control.¹⁰⁸

Board or the audit committee must be independent from the entity, members of the board must have relevant expertise and experience in the organization's industry. The extent of the board's involvement and scrutiny of activities as well as the appropriateness of the board's actions determines how effective the internal control will be.¹⁰⁹ On the other hand, the board's relationship with the auditors, both internal and external, and the extent to how careful they are in observing and discussing the entity's activities play an important role in internal control.

In order for the board to be independent, the board must definitely have members from outside just for the same rationale that the entities have both internal and external auditors. SOX in the US has changed most of the old habit of dominating the board with

¹⁰⁷ COSO, p.28.

¹⁰⁸ Whittington, O.R et al., "Principles of Auditing", 1992, cited in Ş. Uzun, "İşletmelerde İç Kontrol Sistemini İncelemenin Bağımsız Dış Denetim Karar Sürecindeki Yeri ve Türkiye'deki Denetim Firmalarına Yönelik Bir Araştırma", SPK, First Edition, 1999, p.24.

¹⁰⁹ COSO, p.28.

senior management only and brought significant representation from outside members.¹¹⁰ For example, all companies quoted on the New York Stock Exchange must have an audit committee comprised of external representation.¹¹¹

Krishnan and Visvanathan find that a higher number of meetings of the audit committee, lesser proportion of 'financial experts' in the audit committee, and more auditor changes characterize firms that report weaknesses in their internal controls compared to firms with no weaknesses.¹¹²

Finally, the internal control unit must be able to audit itself as well expose itself to both auditors from within and from outside the organization.¹¹³

Concepts that are likely to match this factor from the research by Haskins and Henarie¹¹⁴ would be the following:

- Conscientiousness of the audit committee in the execution of their duties and responsibilities.
- Qualifications of the members of the Board of Directors / Audit Committee.

1.5.4.6. Management's Philosophy and Operating Style

Management's philosophy and operating style play an important role in setting up the control environment.¹¹⁵ Does management take significant risks or are they risk averse? Are profit plans and budget data set as best possible plans or most likely targets? Can management be described as fat and bureaucratic, dominated by one of a few individuals or is it just right? Understanding these and similar aspects of management's philosophy and operating style gives the auditor a sense of management's attitude about internal control.

¹¹⁰ Moeller, p.129.

¹¹¹ Uzay, p.26.

¹¹² G.V. Krishnan and G. Visvanathan, "Reporting Internal Control Deficiencies in the Post-Sarbanes-Oxley Era: The Role of Auditors and Corporate Governance", **International Journal of Auditing**, Vol.11, 2, 2007, p.86.

¹¹³ E. Kumcu, "Bankalarda İç Kontrol İşlevi ve Üst Yönetim", **XII. International Audit Congress, Turkey: Developing and Enhancing Internal Audit, Turkey**, 7 November 2008, p.3.

¹¹⁴ Details of this research is provided in section 3.2. "Relevant Literature on Accounting Misstatements" of this study.

¹¹⁵ Arens and Loebbecke, p.294.

Risk averse managements would like to avoid uncertainties by setting up more rigid rules than other managements; whereas, certain entities like to take risks and thus, keep internal control loose.

Attitudes towards financial reporting, conservative or aggressive selection from available alternative accounting principles, conscientiousness and conservatism with which accounting estimates are developed and attitudes towards data processing and accounting functions and personnel are examples to management philosophy and operating style.¹¹⁶

Although no one set of styles and philosophies is always the best for all organizations, it is important to consider these other components of internal control in an organization.¹¹⁷

Since internal control department is not directly generating profits unlike the most of the other departments in a company, to a naked eye, it appears as an extra cost to a company. That's why the management's attitude towards the importance of internal control is crucial. On the other hand, management override is a big problem and as it has been stated before, it is one of the limitations of internal control.

Concepts that are likely to match this factor from the research by Haskins and Henarie¹¹⁸ would be the following:

- Reputation of the client's top, executive management for taking unusual business risks.
- Extent to which the client's top, executive management is dominated by one or a few individuals.

¹¹⁶ COSO, p.27.

¹¹⁷ Moeller, p.130.

¹¹⁸ Details of this research is provided in section 3.2. "Relevant Literature on Accounting Misstatements" of this study.

1.5.4.7. Organizational Structure

In order to reach its objectives, entities deal with certain activities, including operating, investing and financing activities. The organizational structure provides the framework in order to plan, execute and control such activities. Defining key areas of authority and responsibility and establishing appropriate lines of reporting are elements of establishing an organizational structure.¹¹⁹

The structure can be centralized or decentralized, flat or hierarchical. This depends on the objectives of the entity as well as the size of the entity. In addition, entities performing sales to international geographical locations or having diverse lines of business would set up an organizational structure based on such widespread activities.

The auditors need to have a good understanding of the organizational structure and the resultant reporting relationships of the entity as it is often the fact that a weakness in organizational controls can have a pervasive effect throughout the total control environment.¹²⁰

Concepts that are likely to match this factor from the research by Haskins and Henarie¹²¹ would be the following:

- Accessibility of supervisors to employees, both of whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).
- Compatibility of the client's formal / informal organizational structure with their organizational goals.

¹¹⁹ COSO, p.27

¹²⁰ *ibid.*

¹²¹ Details of this research is provided in section 3.2. "Relevant Literature on Accounting Misstatements" of this study.

1.5.4.8. Assignment of Authority and Responsibility

This is similar to the organizational structure factor explained above as an organization's structure would define the assignment and integration of the total work effort.¹²² As a result of assignment of authority and responsibility, each individual in the entity would know their responsibilities, who are authorized to approve which transactions and who they will report to.

Certain tasks are clear cut, whereas; at certain times, the individual may be facing the task for the first time. In such a case, the degree to which an individual can use initiative would have been known after assignment of authority and responsibility. For example, when our important customer demands a discount, does the sales officer have the empowerment to give the customer a discount or must he consult the manager?¹²³

Objectives set by the entity must define the limit for delegation. Too much delegation may lead to flattening of the organization, that is, less hierarchy. In such a case, most of the employees will be empowered to take initiative when they are interacting with the customers or the suppliers and taking initiative calls for more expertise and competence.

If the employee is going to take risks, he or she should be competent enough to estimate the outcomes and in addition to risks, potential losses and gains must be weighed in order to ensure that the acceptance of risk is appropriate.¹²⁴

In short, the extent to which individuals recognize that they will be held accountable to act in the best interests of the entity has an impact on the control environment.¹²⁵

¹²² Moeller, p.131.

¹²³ COSO, p.28.

¹²⁴ M.L. Weber, "Risk Taking in Organizations", **Handbook of Organizational Behavior**, R.T. Golembiewski (editor), p.204, <http://books.google.com/books?hl=en&lr=&id=g5pD9ciNvA0C&oi=fnd&pg=PA43&dq=%22Loeke%22+%22Motivation+by+Goal+Setting%22+&ots=uSRMgJzIuv&sig=p6aTCCovzLDjAXXafXBMSiTXUoM#PPA203,M1> (19 July 2008).

¹²⁵ COSO, p.28.

Concepts that are likely to match this factor from the research by Haskins and Henarie¹²⁶ would be the following:

- Appropriateness of the internal audit staff's assigned duties, responsibilities, and lines of reporting.
- Existence of an appropriate policy for the authorization of transactions.

1.5.4.9. Human Resources Policies and Practices

HR include personnel related issues, such as recruiting personnel, orientation and job rotation, training, evaluation, promotions, compensation plans and computation of salaries. What level of integrity, ethical behaviour and competence is expected of the employees is conveyed through human resources practices of the entity.¹²⁷ If the HR department hires people with relevant expertise in the industry and a good educational background, this would send a positive signal to the rest of the employees. But if personnel are hired based on references from the managers or requests from a political figure, then the motivation of the other employees would decrease. Also, hiring people with evidence of integrity and ethical behaviour in the past job would demonstrate the entity's commitment to trustworthy people.¹²⁸

In order to meet the goals of internal control, the number of employees is also important: Employing a larger than necessary number of employees would result in under-optimal benefit received from employees and increase the costs; whereas, employing a smaller than necessary number of employees would slowen the work and almost impede achievement of goals.¹²⁹

Through training, personnel are shown what types of behaviours are expected and rotation of personnel and promotions based on performance appraisals motivate the

¹²⁶ Details of this research is provided in section 3.2. "Relevant Literature on Accounting Misstatements" of this study.

¹²⁷ COSO, p.28.

¹²⁸ Ramos, p. 19.

¹²⁹ C. Kepekçi, **Bağımsız Denetim**, Cem Web Ofset Ltd Şti, 2000, p.69.

personnel and illustrate how fast competent and honest employees can move up the hierarchy. Compensation plans, including bonus payments and stock option plans serve to motivate the employees; whereas, disciplinary or coercive actions taken by the HR send a clear message that codes of conduct are not just on theory.

HR must be competent itself to be able to contribute to a better internal control and therefore, they must keep pace with the recent trends and the dynamics of the work environment.

Effective human resource policies and procedures are a critical component in the overall control environment. Messages from the top regarding strong organization structures will accomplish little if the organization does not have strong human resources policies and procedures in place.¹³⁰ Therefore, reviews of the internal control framework of an entity before conducting the audit should always include thorough investigation of the human resource policies and procedures of the entity. Lack of attention would lessen the costs but would increase the risk of not detecting the errors, hence, increase the risk of failure to detect and consequently, would lead to higher costs than before.

Concepts that are likely to match this factor from the research by Haskins and Henarie¹³¹ would be the following:

- Appropriateness of client training programs for new or promoted employees whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).
- Existence of client programs for ongoing evaluation of employees whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).

¹³⁰ Moeller, p.133.

¹³¹ Details of this research is provided in section 3.2. "Relevant Literature on Accounting Misstatements" of this study.

2. ACCOUNTING ERRORS AND FRAUD

2.1. ACCOUNTING ERRORS IN GENERAL

TMS 8 (Turkish Standard for Accounting Policies, Changes in Accounting Estimates and Errors) and IAS 8 (Accounting Policies, Changes in Accounting Estimates and Errors) describe errors as follows:¹³²

“Errors can arise in respect of the recognition, measurement, presentation or disclosure of elements of financial statements. Financial statements do not comply with IFRS’s if they contain either material errors or immaterial errors made intentionally to achieve a particular presentation of an entity’s financial position, financial performance or cash flows. Potential current period errors discovered in that period are corrected before the financial statements are authorized for issue. However, material errors are sometimes not discovered until a subsequent period, and these prior period errors are corrected in the comparative information presented in the financial statements for that subsequent period.”

According to US GAAP, errors occur as mathematical errors or due to wrong application of accounting principles, and wrong application of information during the preparation of financial statements.¹³³

CMB Communique Serial:XII, No:25¹³⁴ (Accounting Policies, Changes in Accounting Estimates And Errors) defines error as follows: Errors signify detecting of exclusion of reliable information that is expected to be present and considered during the preparation of financial statements relating to previous period(s) or making other reporting

¹³² TMSK, **Türkiye Muhasebe Standartları: Uluslararası Finansal Raporlama Standartları (IFRS/IAS) ile Uyumlu Türkiye Muhasebe Standartları**, TMSK Yayınları, 2008, p.298.

¹³³ Demir V., “SPK Muhasebe Standartları Çerçevesinde Hata Kavramı ve Düzeltilmesi, Kıdem Tazminatı Karşılığı Hesaplama Örneği”, **Mali Çözüm Dergisi**, Vol.77, 2006, p.5.

¹³⁴ Replaced by Communique Serial:XII, No.29 as of 09.04.2008. K. Gürdal, “Muhasebe Dünyasından Haberler: Sermaye Piyasasında Muhasebe Standartları”, **Muhasebe ve Denetime Bakış**, Vol.26, 2008, p.155.

mistakes. Errors may be mathematical errors, wrong application of accounting policies, misinterpretation of information, failure to notice or intentional errors.¹³⁵

The main goal and the focus of accounting control* are to observe the working procedures of an organization and to detect irregularities and fraudulent behaviors. A proper accounting control is based on detection of errors and fraud.

The approach to detecting accounting errors relies on the double entry bookkeeping as we have to check if your books are “in-balance”.

There are different kinds of errors that can occur during the accounting process, such as the following:¹³⁶

- *Transposition errors: such as writing 72 instead of 27. If the error amount is divisible by 9, it is most likely a transposition error.*
- *Typos: Writing a 3 for an 8 or vice versa.*
- *Problem with multiple zeros: Writing 300 instead of 30 or vice versa.*
- *Beginning balance or balance forward may be incorrect: In this case, the correct amount must be traced back to the previous period.*
- *The GL account number or amount may have been typed incorrectly while posting.*
- *Reversing a debit entry for a credit entry or vice versa.*
- *GL account calculation errors - The general journal entry debits may not equal the credits.*
- *Problem with the GL codes: Incorrect code entry in the journals.*

Such misstatements cited above occur because the accountants usually work in a highly demanding work environment where the daily chores are very time consuming and there are strict deadlines. Therefore, accountants usually do not have time to double check

¹³⁵ Demir, p.5.

* Accounting control is a set of procedures used to assure accuracy in the record keeping function. Controls exist to make certain source data placed in the system are proper and correct. J.G. Siegel and J.K. Shim, **Dictionary of Accounting Terms**, Barron's Educational Series, 2000, p.7.

¹³⁶ W.J. Day, “Detecting Accounting Errors”, 2005, p.2, <http://reallifeaccounting.com/blog> (11 April 2008).

their entries until when they realize that the financial statements are not proper, that is, the balance sheets do not balance or the net income on the income statement does not reconcile with the change in retained earnings net of dividends.

2.2. THE DIFFERENCE BETWEEN ERRORS AND FRAUD

CMB Communique Serial:X, No:22 (Communique on Independent Audit Standards) distinguishes between errors and frauds as follows: Misstatements in the financial statements can arise from fraud or errors. The main difference between fraud and error is whether the act has been done intentionally or not.¹³⁷ Error signifies unintentional acts by deterring an amount or a disclosure on the financial statements. Under this framework, a misstatement during data collection for the financial statements and data analysis, a wrong accounting estimate stemming from failure to notice or misinterpretation of events and misstatements during the application of accounting principles, measurement, recognition, classification, measurement, presentation or disclosure are all falling under the definition of errors. On the contrary, fraud is an endeavour of a member of the staff to provide personal benefits by intentional misuse of an entity's sources and assets.

Therefore, errors and frauds are two confusing terms, which need further clarification. Auditing standards indicate that material misstatements derive from two sources: error and fraud.¹³⁸ Loebbecke et al. states that if the auditor's experience of misstatement from error can be characterized as infrequent, research indicates that the auditor's experience of misstatement from fraud can be characterized as rare.¹³⁹ Additionally, the researchers surveyed 121 audit partners with an average of nearly twenty years of audit experience and the result was that only 352 fraud cases were encountered

¹³⁷ Hansen et al., "A Generalized Qualitative Response Model and the Analysis of Management Fraud", **Management Science**, 1996, Vol.42, 7, p.1023.

¹³⁸ AICPA, "Statement on Auditing Standards. No.82 – Consideration of Fraud in a Financial Statement Audit", 1992, New York AICPA cited in T.M. Kozloski, **Fraud Risk Assessments of Independent Auditors: The Influence of Similarity and Risk on Knowledge Transfer from Prior Fraud Risk Assessments**, Unpublished PhD Thesis, Drexel University, 2002, pp.1-208.

¹³⁹ J.K. Loebbecke, M.M. Eining and J.J. Willingham, "Auditors' Experience with Material Irregularities: Frequency, Nature and Detectability, **Auditing: A Journal of Practice & Theory**, Vol.9, 1989, p.25.

during their career: 196 of such cases were fraudulent financial reporting and only 157 of them were material.

A successful audit would detect all existing errors as well as fraud in a company. Although auditors search for material misstatements before and during the audit, it is sometimes not easy to find such misstatements. Material misstatements occur rarely and most auditors may not have direct experience and therefore, an audit may be finalized without the detection of the misstatement. In a study of the audits of 152 companies, it has been found by Hylas and Ashton that 37.5% of the audits by Peat, Marwick, Mitchell&Conn*, detected no errors.¹⁴⁰ In addition, it has been stated by Hylas and Ashton that many types of specific errors have very low base rates of occurrence.

There is no intent in errors but usually lack of knowledge or negligence. Booking equipment as general and administrative expenses instead of as a part of fixed assets would delude the financial statements and this kind of a misstatement can be either an error or a fraud. The auditors need to probe into as to what extent the misstatement has been caused by lack of knowledge or reckless behaviour in order to determine whether it is simply an error or more than that.

Accounting errors happen due to lack of knowledge and expertise as well as negligence; whereas, there is always a negative intent in accounting fraud and it is often very hard to determine the existence of such intent.

In order to decide on the existence of a fraud, one has to check the accounts related to the fraudulent accounts. Fraud is usually performed as a result of a motive: As an instance, the motive behind booking equipment under general and administrative expenses would be to reduce profits, hence lower the earnings in order to pay lower taxes. If we suspect that the main motive of the bookkeeper is to lower the earnings, then we should also check whether there have been misbookings of the same nature. Finding misbookings

* presently known as KMPG.

¹⁴⁰ R. Hylas and R. Ashton, "Audit Detection of Financial Statement Errors", *The Accounting Review*, 1982, Vol.57, 4, p.751.

of the same nature (e.g. all such misbookings understate the earnings) in financial statements would be supportive of a fraudulent earnings management.

It is sometimes but not often easy to differentiate between errors and fraud: Except for extraordinary situations, significant variances from correct bookings are deemed as fraud. Nevertheless, it is very unlikely that a senior accountant, who has long served in a large corporation, may not know classification principles and make an error by classifying unearned revenue as revenue on the income statement. Therefore, the case that a senior accountant booking such accounts that deviate from the generally accepted accounting principles can be considered dodgy and such accounts can be held under close scrutiny by the auditors.

A compensatory booking in order to conceal a previous error shall also be considered as fraud. Such an error should have been retrospectively or concurrently corrected but not fictitiously overcome with a second booking.

The same error happening in consecutive periods would also support the assumption of a fraud. However, before we embark on a final conclusion, we need to know under which circumstances such consecutive errors have happened. For example, in cases where the accounting plan (or the chart of accounts) of the company comprises accounts with similar descriptions, we shall not be surprised to see such consecutive errors for the reason for those errors would then stem from the confusion of the accounts by the bookkeeper. In such cases, it would be wiser to find and fix the root of the organizational problems than blame the bookkeeper or the organization in suspect of a possible fraud.

2.3. TYPES OF ERRORS AND FRAUDS

Articles written over errors and frauds usually conclude on the existence of the following types:

2.3.1. Accounting Errors

Accounting errors may comprise mathematical or calculation errors, booking errors, posting errors, errors due to slip of the memory, errors due to redundant bookings and general balance sheet misstatements.¹⁴¹

2.3.1.1. Calculation Errors

Such errors are observed as most of the bookkeepers still avoid using calculators to do the algebra. Even when calculators are used, calculations may still be prone to errors while pushing buttons on the calculator. Even use of office programs such as excel do not help; mistakes still occur due to wrong selection of the data, missing rows in the formula, formula errors, digit problems or outdated links that refer to old data. After all, no matter if it is a calculator or a computer, the input is always provided by humans and therefore, the input, as well as the results, is prone to mistakes.

Calculation errors generally include summation and subtraction errors. Multiplication errors follow. Yet, division errors are not that common as it is not very common to use division in accounting.¹⁴² The following is an example to a calculation error:

Selling and marketing expenses, which comprise of several sub-accounts (including sales commissions, freight-out, advertising expenses etc), have been summed as TRY110, although such expenses were in fact TRY120. The GL shows that selling and marketing expenses are TRY110 due to this calculation error.

¹⁴¹ E. Aygördü, “Muhasebe’de Hata ve Hileler”, 2006, p.5, <http://www.muhasibetr.com/yazarlarimiz/ertan/001/> (18 April 2008).

¹⁴² *ibid.*

2.3.1.2. Booking Errors

Booking errors include following:

- The amount booked on the GL may have been posted incorrectly on the financial statements.¹⁴³ Such errors usually occur when the bookkeeper is in a hurry to produce the financial statements and when the deadline is due. Typing 12 instead of 120 or 34 instead of 43 are examples to such errors. Also, when the bookkeeper is handling large numbers with multiple zeros, it is often likely that one or two of the zeros are missing.
- When the nature of the account is not clear to the bookkeeper, he/she tends to book it to some line item which may not be the right one.¹⁴⁴ An example to such an error would be booking the salary of the factory supervisor under general and administrative expenses, whereas; the correct booking would be to add it to the manufacturing overhead and include it in the cost of goods sold.
- The amount may have been booked as debit instead of credit or vice versa.¹⁴⁵ In such a case, the magnitude of the error would have been double; therefore, the error must be corrected by doubling the reverse entry. An example would be as follows;

Assuming that inventory has been purchased and the supplier will receive the money in a few months; the entry shown below would be wrong:

dr. accounts payable 100
cr.inventory 100

By debiting accounts payable instead of crediting it, we mistakenly reduce the accounts payable by 200.

¹⁴³ Aygördü, p.8

¹⁴⁴ *ibid.*

¹⁴⁵ *ibid.*

2.3.1.3. Posting Errors

Posting the journal entries to GL may entail some possibilities for mistakes. Such mistakes can be related to the amounts or to the line items.

2.3.1.4. Errors Due to Slip of the Memory

Certain transactions may have been omitted during bookings.¹⁴⁶ Such omissions usually occur when the invoices are missing or they have been placed in the wrong file. Also when the transactions or files are not indexed, it is easy to miss one or two transactions. Furthermore, what is generally forgotten is to book a part or all of the prepaid expenses as expenses when the expense is actually realized.

Sample detection reports presented in Appendix 2 include many examples to this kind of errors, if not fraud.

2.3.1.5. Errors Due to Redundancy

Contrary to omitting transactions due to slip of the memory, redundancy refers to booking the same transaction for the second time or even more times. This usually occurs when the company has a payable as the bookkeeper first books the transaction upon receiving the invoice (in Turkey, the case is that the invoice is stamped on the upper side of the invoice indicating that the payment has not yet been done) and then when the payment is actually realized (in Turkey, the case is that the invoice is stamped underneath the amount on the invoice indicating that the payment has been done).

Therefore, the accountant books the transaction primarily on the date of the transaction and secondly when the payment is made. Such mistakes are observed especially when the firms use pro-forma invoices.¹⁴⁷

¹⁴⁶ Aygördü, p.10.

¹⁴⁷ *ibid.*

2.3.1.6. General Balance Sheet Mistakes

Such mistakes are usually related to the valuation of the asset and liability items, including depreciation and provisions, which are mistakenly booked in contrast with the generally accepted accounting principles and trade codes.¹⁴⁸ In short, such mistakes occur due to violation of principles and when such accounts are re-assessed at the balance sheet date.

Over or under-valuation of the inventory, charging as expense instead of capitalizing, unnecessary provisions and incorrect depreciation allocations are typical examples to such errors.¹⁴⁹

In addition, netting off some assets with some liabilities decreases the interpretation of the financial statements. An example would be booking short term investments as net of their provisions to adjust short term investment to market or showing property, plant and equipment net of accumulated depreciation.

Appendix 2 includes many errors due to allocation of depreciation and provisions.

2.3.2. Accounting Fraud

Fraud is a very challenging area, especially for auditors. Accounting fraud is described as intentional alteration of documents to the benefit of oneself or third parties. Contrary to accounting errors described above, fraud involves a bad intent. Fraud is done due to several motives, including the desire to hide the existence of certain assets, lesser profit distribution, camouflaging corruption, receiving loan at favourable interest rates, increase remuneration for the finance executives, desire to make use of incentives and the intent to evade or defer tax. As a result, companies lose a significant percentage of their assets to employees who cheat their company. Fraud may come from the staff or management as well as from suppliers and customers.

¹⁴⁸ Aygördü, p.10.

¹⁴⁹ H. Söyler, "Hileye İlişkin Genel Bilgiler", 2003, p.2, http://www.alomaliye.com/halil_soyler_isletmelerde_vap_hileler_1.html (15 June 2008).

Risk factors relating to misstatements arising from fraudulent financial reporting as stated by AICPA include the following:¹⁵⁰

- Motivational facts:

- A motivation for management to engage in fraudulent financial reporting, such as a significant portion of management's compensation represented by bonuses, stock options or other incentives, the value of which is contingent upon the entity achieving unduly aggressive targets for operating results, financial position or cash flow,
- An excessive interest by management in maintaining or increasing the entity's stock price or earnings trend through the use of unusually aggressive accounting practices,
- A practice by management of committing to analysts, creditors and other third parties to achieve what appear to be unduly aggressive or clearly unrealistic forecasts,
- An interest by management in pursuing inappropriate means to minimize reported earnings for tax motivated reasons.

- A failure by management to display and communicate an appropriate attitude regarding internal control and financial reporting process:

- An ineffective means of communicating and supporting the entity's values or ethics, or communication of inappropriate values or ethics,
- Domination of management by a single person or small group without compensating controls such as effective oversight by the board of directors or audit committee,
- Inadequate monitoring of significant controls,

¹⁵⁰ AICPA, Statement on Auditing Standards. No.82, **Consideration of Fraud in a Financial Statement Audit**, AICPA

- Management failing to correct reportable conditions on a timely basis,
 - Management setting unduly aggressive financial targets and expectations for operating personnel,
 - Management displaying a significant disregard for regulatory authorities,
 - Management continuing to employ an ineffective accounting, information technology or internal auditing staff.
- Nonfinancial management's excessive participation in or preoccupation with the selection of accounting principles or the determination of significant estimates.
 - High turnover of senior management, counsel or board members.
 - Strained relationship between management and the current or predecessor auditor:
 - Frequent disputes with the current or predecessor auditor on accounting, auditing or reporting matters,
 - Unreasonable demands on the auditor including unreasonable time constraints regarding the completion of the audit or the issuance of the auditor's reports,
 - Formal or informal restrictions on the auditor that inappropriately limit his or her access to people or information or his or her ability to communicate effectively with the board of directors of the audit committee,
 - Domineering management behaviour in dealing with the auditor, especially involving attempts to influence the scope of the auditor's work.
 - Know history of securities law violations or claims against the entity or its senior management alleging fraud or violations of securities laws.

Fraud may occur in various ways:¹⁵¹ An example would be pre-booking of income generating transactions as income. Before the sales transaction is finalized, the transaction is recorded as sales as soon as the goods are loaded. Other examples would be to repay payables before they are due and recording discount income, booking current period's revenues to the next period or next period's expenses as current expenses.

Shortly, examples to fraud can be categorized as unrecorded transactions, fictitious accounts, fake invoices, balance sheet manipulations, fraud in sales, fraud in purchases, inflating the manufacturing costs, reflecting personal expenses into the company accounts and inventory valuation fraud.¹⁵²

2.3.2.1. Unrecorded Transactions

All transactions and entries of companies must be based on some documents. Booking entries which are not supported by any kind of documents is what is called "unregistered transactions".¹⁵³ Failure to take purchase invoices or concealing them and failure to produce sales invoices are typical examples to "unregistered transactions". Sources received through such unregistered transactions are usually deposited at a separate personal bank account outside the company or blended in the liabilities of the balance sheet.

2.3.2.2. Fictitious Accounts

Fictitious accounts are another way of fraud. Fictitious accounts are often realized by creating accounts under the name of some third parties. Such accounts are used to tally the unregistered transactions. Goods sold to a real person at a high amount without an invoice are invoiced at a lower amount to a fictitious person. The difference then goes to the personal account of the cheater.¹⁵⁴

¹⁵¹ Bozkurt, p.18.

¹⁵² Aygördü, p.10.

¹⁵³ ibid.

¹⁵⁴ Söyler, p.2.

Through fictitious accounts, costs are inflated and purchases realized without an invoice are shown as more expensive purchases than they really are.

2.3.2.3. Fake Invoices

Another common type of fraud is producing fake invoices. Either the content of the invoice can be fake or the invoice itself can be totally fake.

2.3.2.4. Balance Sheet Manipulations

Manipulating the balance sheet is a type of fraud where the clerk producing the balance sheet manipulates certain items in favour of a better image to the investors. Better outlook is usually provided through manipulating those accounts that negatively affect profitability, liquidity ratios and solvency ratios: A better accounts receivable turnover and inventory turnover, a higher current ratio and maybe a better return on equity would be more than appealing to investors. On the other hand, a lower price earnings ratio would attract more investors, who would conceive the potential for a price increase.

Since balance sheet is produced usually at the end of a period, the manipulations are mostly seen in the end-of-period adjustments.¹⁵⁵ If the assets are valued at a higher than fair value or if accumulated depreciation is almost nil, then the balance sheet may look better to the users of financial statements.

Tax evasion, lesser profit distribution (i.e. dividends) and speculative acts such as bringing down the market value of common shares outstanding are common motives behind reshaping of the balance sheets. A reshaped balance sheet would probably create better loan opportunities.

¹⁵⁵ Söyler, p.2.

2.3.2.5. Fraud in Sales

Over-the-counter sales, sales to fake companies, sales with a loss and sales invoice manipulations are examples to sales fraud.¹⁵⁶ Additionally, it is often observed that sales discounts are not informed to the buyers.

2.3.2.6. Fraud in Purchases

Purchases are a part of the cost of goods sold, hence, manipulating purchases is a very common type of fraud as a lower or a higher cost of goods sold would affect the profitability of the company. Most of purchase frauds are aimed to decrease net income for the period and evade tax. Unregistered purchases, purchasing at values higher than fair value, not disclosing or booking purchase discounts (hence showing purchases higher than they really are) are typical examples to purchase fraud.¹⁵⁷

2.3.2.7. Inflating the Manufacturing Costs

By increasing the manufacturing costs, the gross margin is retrenched. The part of depreciation that is attributable to manufacturing plant is the manufacturing cost (or to be more specific, overhead cost) component which is subject to most of the manipulations.¹⁵⁸ Allocating depreciation to non-depreciable assets or allocating higher than fair depreciation amounts results in higher manufacturing cost.

Another common way of increasing costs and expenses is to expense those items that in fact must have been capitalized. An example would be capital leases, which must be capitalized under the existence of at least one of the following circumstances: the lease term is greater than 75% of the property's estimated economic life; the lease contains an option to purchase the property for less than fair market value; ownership of the property is transferred to the lessee at the end of the lease term; or the present value of the lease

¹⁵⁶ Aygördü, p.11.

¹⁵⁷ M. Kara, "Yaygın Muhasebe Hata ve Hileleri Nelerdir?", 2008, p.3 http://www.stratejikboyut.com/article_detail.php?id=317 (11 October 2008).

¹⁵⁸ Bozkurt, p.16.

payments exceeds 90% of the fair market value of the property.¹⁵⁹ Capitalizing the lease given the existence of one of the above criteria would mean including the lease under the assets of the firm, whereas; expensing the amount as rental would reduce the net income of the company.

2.3.2.8. Reflecting Personal Expenses into the Company Accounts

Personal expenses may include household expenses, such as electricity, water and other utilities expenses or other personal expenses such as travel expenses, donations, and gifts to third parties. Financial expenses such as interest expense on personal loans and insurance premiums are other examples of personal expenses.

It is a very common way of fraud to show personal expenses as if they are business related expenses. Such expenses cannot easily be detected especially in large and multinational companies, where staff gets to travel very often and where the company has many affiliates abroad. The plane ticket of a spouse going to London would easily blend in the other travel expenses of the company without the auditors being aware of it. Or for example, you buy gasoline for your vehicle and ask the clerk at the gas station to write the receipt on the business car's license plate number. This type of fraud is one of the most common accounting frauds¹⁶⁰ observed in Turkish companies. It would also be difficult for an auditor to understand which cleaning supplies were bought for the owner's household needs and which ones for company's needs.

2.3.2.9. Inventory Valuation Fraud

Valuation of inventory is an important issue as it is one of the items that the company managers prefer manipulating.¹⁶¹ However, under-valued or over-valued ending inventories make no difference in the long run. For example, if some inventory is undervalued in a certain period, cost of goods sold would increase, which would in turn

¹⁵⁹ **Investor Words**, "Capital Lease", WebFinance, Inc. (1997-2008), http://www.investorwords.com/722/capital_lease.html (14 April 2008).

¹⁶⁰ See the Summary of Detection Reports in Appendix 2.

¹⁶¹ Bozkurt, p.19.

decrease the gross margin, hence the taxable income. However, such a manipulation would only affect the short term earnings, that is, the earnings of the relevant period. The valuation difference would result in deferred tax, that is, when the earnings are inflated by the valuation difference, the tax would be higher as well.

2.3.3. Common Misstatements Encountered During Audits

Common misstatements encountered during audits may comprise of several types. There may be valuation misstatements, depreciation misstatements and other types of misstatements.

Valuation mistakes include use of wrong FX rates for FX receivables and payables, discounting of post-dated checks, provision mistakes, mistakes due to capitalizing or expensing, under/over valuation of ending inventory, mistakes on allocation of manufacturing overhead costs, matching mistakes especially on prepaid expenses and unearned revenues.

Depreciation misstatements include depreciation rate mistakes, change of depreciation methods (for example from straight line to double declining), allocation of depreciation for land or sold fixed assets and useful life inconsistencies observed in assets with similar functions.

Certain misstatements inflate company expenses, such as classification of personal expenses company's as operating expenses, reserves as expenses, sales returns and allowances not deducted out of cost of goods sold and prior years' expenses booked as current expenses.

Other common misstatements include mistakes on CIP, allocation and use of special funds, all receipt invoices booked as sales revenues, accrual mistakes, violation of

cash payment limits¹⁶² determined by the applicable tax laws annually, problems with producing invoices, classification mistakes and netting off of mistakes.

Below are the summary results of the observations of fifty detection reports¹⁶³ of companies operating in various industries. Such detection reports have been obtained from a leading local audit company in Turkey and the reports relate to tax audits of 2006 and 2007 financial statements.

Following 20 misstatements (most of them being related to tax only) were the most common ones:¹⁶⁴

1. Cash payment daily limit of TRY8 thousand set forth by Turkish Tax Law article 320 has been violated through payments to suppliers and other parties at amounts over TRY8 thousand. Such payments were realized one at a time or separately during the day/week.

2. FX valuations of receivables and payables including a foreign currency have been either forgotten or done by using various rates; including Central Bank ask rate or effective rates. Bid rate must be used.

3. Fuel oil receipts do not state the license plate numbers or fuel oil receipts booked display a licence plate number of a vehicle not owned by the company.

4. VAT has been deducted out of taxi receipts. However, taxi operators are exempt from VAT.

¹⁶² Each year, the Ministry of Finance determines the legal limit whereby all payments over the legal limit have to be realized through financial institutions such as banks or through the post office. Exceptions include collections and payments for transactions made at capital market intermediaries, authorized FX dealers, notaries, title of deed offices. See Tax Procedural Law article 323 for this exception.

¹⁶³ Detection report: As a result of their prior observations, the audit company sends a detection report to the companies so that they correct their errors before the audit is completed. Sample detection reports can be seen in Appendix 2.

¹⁶⁴ Please note that such misstatements are especially on tax matters and they relate to a specific period. However, this study is based on accounting misstatements in general and therefore; these tax audit misstatements were used solely as a starting point before determining the most common accounting misstatements.

5. Advances and Due from/to accounts see no movements during the year, sometimes even for the last couple of years.

6. Intangible and tangible assets purchased in the year 2006 at an amount over TRY 520 (TRY 560 in 2007) have been booked as expense.

7. Prepaid expenses have not been capitalized but booked as expense. On the contrary, unearned revenues are not capitalized but booked as revenue.

8. Toll road charge has been fully booked as expense; however, VAT must have been deducted using internal rate method.

9. FX difference valuations for the amounts under the “Bank Loans” account have been booked under “Foreign Exchange Losses”; however, they must have been booked under “Financial Expenses” account.

10. Wrong rates of depreciation are used.

11. FX valuations of cash including a foreign currency are either forgotten or done by using various rates, including Central Bank bid and ask rate or effective ask rates. Central Bank effective bid rate must be used.

12. “Other Liabilities” account, which is no. 336 in the Uniform Chart of Accounts shows a debit balance, which must indeed be posted to “Other Receivables”, which is no. 136 in the Uniform Chart of Accounts.

13. “Other Receivables”, which is no. 136 in the Uniform Chart of Accounts account shows a credit balance. The credit balance must be posted to “Other Liabilities”, which is no. 336 in the Uniform Chart of Accounts.

14. There is thin capitalization problem as payables exceed three times the shareholders’ equity.

15. “Taxes and Funds Payable” and “Social Security Premiums Payable” balances on the ledgers do not tally with the balances on the tax declaration forms.

16. The amount that belongs to the current tax period has not been charged as expense out of the asset account “Prepaid Expenses for the Following Years”.

17. “Other Receivables” which have not been collected since the beginning of the period were not subject to interest accumulation.

18. Advances given to employees that have not been cleared in the accounting period were not treated as salary and were not subject to income tax and like.

19. The Company has not apportioned any “legal reserves” before booking “Previous Year’s Earnings”. According to Turkish Commercial Code article 466, legal reserves must be apportioned annually by one twentieth of net income until legal reserves reach 5% of paid-in capital.

20. Rental aid, transportation aid and such merits to employees were shown on a disbursement voucher and charged as expense. However, they must be treated as part of salary.

Such misstatements can generally be classified as “errors” but certain items, such as reflecting personal expenses, postponing revenues to the following years, raise suspicions for a possible fraud.

3. BACKGROUND LITERATURE

3.1. INTRODUCTION

Auditors plan and perform audits and as a result, they provide reasonable assurance of detecting material misstatements in financial statements. Such misstatements are sometimes hard to detect: Although most of them are detected, some still remain undetected. Internal control of the company plays an important role in this whole auditing process as most of the misstatements are in fact detected primarily through internal control. What auditors find as misstatements are likely to be those misstatements that have not been detected by internal control and misstatements remain undetected in companies where internal control is rather weak or non-existent or when the internal control team is not acting independent of the management.

In order to detect misstatements, auditors rely heavily on professional judgment, past experience, and knowledge of types of accounting errors. Auditor makes judgments regarding the nature, timing and extent of tests and assesses the risk of material misstatement in search of minimizing the probability of making a mistake during the audits.

Information over the past decades, substantial archival research has studied the incidence of accounting errors and their detection by internal control and auditors mainly in the U.S., U.K., and Canada. In addition, many Chinese academics have also focused on accounting errors. Examples include Chan and Mo¹⁶⁵ and Eilifsen et al.¹⁶⁶ who examined the characteristics of errors in Hong Kong and Norway. The results of these two studies indicated some unique features of misstatements detected. These differences are due to different economic, cultural, and financial environments. To enhance the understanding of the incidence of misstatements in different countries, Eilifsen et al. called for more multinational error studies in countries outside the Anglo-Saxon sphere, particularly those

¹⁶⁵ K.H. Chan, K.Z. Lin and P.L. Mo., "An Empirical Study on the Impact of Culture on Audit-Detected Accounting Errors", *Auditing: A Journal of Practice and Theory*, Vol.22, 2, 2003, pp.281-295.

¹⁶⁶ A. Eilifsen and Jr.W.F. Messier, "The incidence and detection of misstatements: A review and integration of archival research", *Journal of Accounting Literature*, Vol.19, 2000, p.37.

in emerging economies, where empirical evidence is less compared to evidence in the Anglo-Saxon Countries.

Culture has also been proven to be an important environmental factor influencing accounting practices and management control systems and hence, the occurrence of misstatements. For example, cross-cultural studies suggested that different error patterns are found in companies with different management practices and accounting control systems and that frequent changes of personnel, especially senior accounting personnel, will increase the likelihood of error occurrence because of unfamiliarity with business practices and regulations during the changeover period.¹⁶⁷ Thus, the extant literature provides some evidence on linking culture to factors that contribute to accounting errors.

Internal control is formed based on the existing culture of a multinational corporation and is essential in detecting misstatements. The more misstatements detected by internal control, the less the scope of risk planning will be by the auditors. That's why further exploration of internal control is essential in facilitating the work of auditors. Even though some companies are known not to have a proper internal control, they would still practice certain components of internal control.

Haskins and Henarie's¹⁶⁸ study of finding the importance level of client's control environment factors was in fact a flagship research in internal control. The research followed by the COSO and Sarbanes Oxley Act of 2002 helped improve internal control and minimize misstatements and fraud.

3.2. RELEVANT LITERATURE ON ACCOUNTING MISSTATEMENTS

Misstatements are incorrectly stated, misleading or omitted accounting numbers or disclosures and they can arise from errors or fraud. Material misstatements are those misstatements that, if known to a reasonable person relying on the financial statements,

¹⁶⁷ R.W. Kreutzfeld and W.A.Wallace, "Error Characteristics in Audit Populations: Their Profile and Relationship to Environmental Factors", *Auditing: A Journal of Practice and Theory*, Fall 1986, pp.20-43 cited in Chan, Lin and Mo, p.284.

¹⁶⁸ M.E. Haskins and R.L. Henarie, "Attributes and Audit Impact of Client's Control Environment", 1985, *The CPA Journal*, Vol.55, 7, pp.18-26.

would probably change or influence the judgment of that person regarding a business decision, such as the decision to lend or invest in the entity that issued the financial statements.¹⁶⁹

Accounting errors are mostly observed on the GLs or the financial statements; whereas, most of the accounting frauds appear on the documents, which are the primary sources of input.¹⁷⁰ Since fraud is done on the documents themselves, the accounting system cannot easily detect the error because the system only holds the secondary data, that is, the data transferred by humans from the documents into the computer. That's why; it usually boils down to the auditor to detect these frauds during the audit process. The internal or the external auditor's expertise, efficient risk planning and skills help detect such fraud. Therefore, the auditors need to be very careful and follow a sceptical way while checking the company's accounts. Hylas and Ashton¹⁷¹ and Bell et al¹⁷² have found that 3.6 to 6% of detected errors are intentional or fraudulent. Loebbecke et al. identified around 350 frauds from around 1100 respondents (as partners in a company), which means that partners had experience of an average of 3 frauds in their careers.¹⁷³ DeFond and Jiambalvo have indicated that 24% of restatements of financial statements involved management fraud.¹⁷⁴

Though the occurrence of serious fraudulent financial reporting is infrequent, its consequences can be widespread and significant¹⁷⁵. It is up to the auditors to organize ways to detect such fraud. SAS No. 53, "The Auditor's Responsibility to Detect and Report Errors and Irregularities",¹⁷⁶ requires that auditors in the US assess the likelihood of

¹⁶⁹ FASB, "Statement of Financial Accounting Concepts No.2-Qualitative Characteristics of Accounting Information, Stamford, CT: FASB, issued 1980, amended 2008, p.4.

¹⁷⁰ Söyler, p.2.

¹⁷¹ Hylas and Ashton, p.760.

¹⁷² Bell et al., "An Empirical Investigation of the Relationship Between the Computerization of Accounting Systems and the Incidence and Size of Audit Differences", **Auditing: A Journal Practice and Theory**, Vol.17, 1, 1998, p.19.

¹⁷³ Loebbecke, Eining and Willingham, p.25.

¹⁷⁴ M.L. DeFond and J. Jiambalvo, "Incidence and Circumstances of Accounting Errors", **The Accounting Review**, Vol.66, 3, 1991, p.643.

¹⁷⁵ COSO, Report of the National Commission on Fraudulent Financial Reporting, p.6.

¹⁷⁶ Statement on Auditing Standards No. 53, **The Auditor's Responsibility to Detect and Report Errors and Irregularities**, AICPA.

fraudulent financial reporting in every audit engagement. When it is determined that likelihood is high, auditors are expected to exercise a greater degree of professional scepticism in conducting the audit. Auditors react to such situations by extending audit procedures, selecting more effective procedures, and scrutinizing more closely the results of the procedures performed.¹⁷⁷

In their research relating to auditor expertise, Bonner and Lewis suggest that in the auditing domain, experience (including experience gained from performance feedback) is an antecedent of knowledge and knowledge is an antecedent of performance.¹⁷⁸ If one accepts that fraud base rates of occurrence are indeed low, these low base rates may contribute to an overall lack of experience and familiarity with fraud that may influence the auditor's ability to assess the risk of misstatements from fraud.¹⁷⁹

Hackenbrack¹⁸⁰ notes that both an incentive (i.e. motivation or pressure) and an opportunity (i.e. a condition) allowing for the commission of the fraud are necessary for a fraud to take place: Weak internal control is a triggering point for fraud.

Researches conducted in several countries show that companies lose, in general, 6% of their income due to fraud and that 30% of the causes of business failures stem from the fact that the employees cheated their companies.¹⁸¹

There is quite a large literature on the impact of culture on accounting. Evidence from China would be Chan and Mo¹⁸² who studied non-compliance in the companies. As it has been mentioned before in this study, the entity's compliance with applicable laws and regulations is one of the objectives of internal control. Chan and Mo stated that developing

¹⁷⁷ Loebbecke, Eining and Willingham, p.24.

¹⁷⁸ S.E. Bonner and B.L. Lewis, "Determinants of Auditor Expertise", **Journal of Accounting Research**, Vol.28, 1990, p.16.

¹⁷⁹ Hansen et al., p.1023.

¹⁸⁰ K. Hackenbrack, "The Effect of Experience with Different Sized Clients on Auditor Evaluations of Fraudulent Financial Reporting Indicators", **Auditing: A Journal of Practice and Theory**, Vol.12, 1, 1993, p.105.

¹⁸¹ Söyler, p.3.

¹⁸² K.H. Chan and P.L. Mo., "The Impact of Firm Characteristics on Book-Tax-Conforming and Book-Tax-Difference Audit Adjustments", **The Journal of the American Taxation Association**, 2002, pp.18-34, http://goliath.ecnext.com/coms2/gi_0199-942206/The-impact-of-firm-characteristics.html (01 November 2008).

countries are very eager to attract export-oriented enterprises, as they earn foreign exchange and help to improve the balance of payments. These countries are very eager to bring in high-tech companies, as they tend to produce high-value products. However, evidence suggests that developing countries often lose significant revenue due to tax non-compliance by foreign investors. In 2000, the detected noncompliance in China amounted to US\$1.22 billion and most of the cases were related to foreign investors. Chan and Mo have added that export oriented companies are found to have large book-tax-conforming misstatements through understatement of sales revenue. Their study on the impact of two firm characteristics, namely the activity orientation and technology status of companies on book-tax-conforming and book-tax-noncompliance showed that export-oriented foreign enterprises and high-tech foreign enterprises tend to have larger tax-book-conforming non-compliance than their counterparts.

Ham, Losell and Smieliauskas¹⁸³ investigated three environmental factors, namely accounting category, industry and firm-specific characteristics to find their impact on errors and error rates. First, they examined errors in accounts payable, purchases, sales, accounts receivable and inventory. Previous studies have had mostly access to data on only accounts receivable and inventory categories. Secondly, they calculated four error rates to describe error characteristics. Error frequency, taintings (the proportion of a dollar unit that is in error), the proportion of dollar units in error and proportion of the recorded value of the sample were chosen as error rates that described the error characteristics. Receiving data from the audit files of five annual audits for 20 companies selected by PWC, they first split such companies into sectors and determined that 1 is privately owned, 11 from the manufacturing sector, 4 from the service industry and 5 from the distributing industry. The researchers, having noted that PWC clients might differ systematically from clients of other accounting firms, stated that generalization from 20 small and mid-sized companies might be inappropriate and that finally the audit approach of PWC might be different from that of other audit companies. Consequently, their data indicated that detected accounts receivable

¹⁸³ J. Ham, D. Losell and W. Smieliauskas, "An Empirical Study of Error Characteristics in Accounting Populations", 1985, *The Accounting Review*, Vol.60, 3, p.387.

errors tend to be overstatement errors while detected inventory errors are fairly evenly balanced between understatements and over statements. Detected accounts payable and purchases errors tend to be understatements while detected sales errors tend to be overstatements. Having compared the amount of errors by account categories, Ham, Losell and Smieliauskas found that accounts receivable errors are on average larger than inventory errors and that the accounts payable errors are the smallest in absolute values. Contrary to Felix and Grimlund,¹⁸⁴ who found that the errors are normally distributed, Ham et al. found that error distributions generally are skewed and kurtotic and that normality is rejected at the .01 level. Following such data, the Ham et al. investigated the impact of accounting category, company specific effects, company size and industry on errors. The results showed the following:

- *Accounts receivable and accounts payable errors are affected by individual firm characteristics which did not simply represent industry difference.*
- *Accounts payable category had the highest number of errors in relation to the number of items tested (whereas the smallest absolute value.*
- *Accounts receivable taintings (error amount per book value of the item) were larger than the taintings of four other accounting categories.*
- *Firm size has no significant impact on error rates (i.e. as bigger firms have presumably better internal control, they are believed to produce smallest errors).*
- *Industry has a significant impact on error incidence in the purchases category.*

Empirical studies conducted by Johnson, Leitch and Neter¹⁸⁵ indicate that assets and revenue errors are likely to be overstatements while liability and expense errors are likely to be understatements.

Dechow, Sloan and Sweeney¹⁸⁶ analyzed firms that are subject to enforcement actions by the SEC to explore both causes and consequences of earnings manipulations.

¹⁸⁴ W.L. Felix and R. Grimlund, "A Sampling Model for Audit Tests of Composite Accounts", **Journal of Accounting Research**, 1977, Vol.15, 1, p.34.

¹⁸⁵ J. Johnson, R. Leitch and J. Neter, "Characteristics of Errors in Accounts Receivable and Inventory Audits", **The Accounting Review**, Vol.56, 2, 1981, p.279.

They found that the motive behind such manipulations was mainly the desire for low cost external financing. The study results showed that when the company got closer to exhausting its internal financings, the earning manipulations started taking effect. On the other hand, firms manipulating earnings were usually;

- *Those with board of directors dominated by the management or*
- *Those with a chief executive officer who simultaneously acts as the chairman of the Board or*
- *Those with a chief executive officer who is also the founder of the company.*

Kreutzfeld and Wallace, in their article “Discussants’ Comments on “The Incidence and Detection of Misstatements: A Review and Integration of Archival Research”” observed 16,000 companies, which are SEC registrants and found out that 14,698 misstatements out of 244,972 misstatements spotted in those companies were intentional errors.¹⁸⁷ They designed concept maps upon adapting the table in “The Process of Misstatement Incidence and Detection” proposed by Eilifsen et al.. and based on 16,000 companies, they highlighted the idea that inherent risks, inadequate controls or the override of controls could result in misstatements as proposed below:

- *Inherent risk environment creates risk of misstatements and such misstatements are prevented by internal controls or misstatements occur and are not prevented by internal controls (244,972 misstatements observed) and sometimes there are intentional errors and they are not prevented (14,698 misstatements observed).*
- *If misstatements are prevented by internal controls, the next step is that the auditor conducts substantive tests and if no misstatements are detected, published financial statements are presented fairly.*

¹⁸⁶ P.M. Dechow, R.G., Sloan and A.P. Sweeney, “Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC”, **Contemporary Accounting Research**, Vol.13, 2, 1996, pp.1-36, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2607 (23 November 2008).

¹⁸⁷ R. W. Kreutzfeldt and W. A. Wallace, “Discussants’ Comments on the “Incidence and Detection of Misstatements: A Review and Integration of Archival Research”, **Journal of Accounting Literature**, Vol.19, 2000, p.52.

- *If misstatements occur and are not prevented by internal controls, misstatements can be prevented in a secondary internal control and corrected (97,813 misstatements observed) or cannot be prevented even in a secondary control.*
- *If misstatements can be prevented in a secondary internal control, the next step is that the auditor conducts substantive tests and if no misstatements are detected, published financial statements are presented fairly.*
- *If misstatements cannot be prevented even in a secondary control, auditors detect and the client corrects the misstatements (146,720 misstatements observed) or auditor cannot detect the misstatements.*
- *If auditors detect and the client corrects the misstatements, published financial statements are presented fairly.*
- *If auditor cannot detect the misstatements, published financial statements contain misstatements, which are either discovered subsequently and corrected or remain undiscovered.*
- *If published financial statements contain misstatements, then there will possibly be litigation against auditors.*

They added that one third to half fewer errors were observed when there were strong controls¹⁸⁸ and that 9.3% to 28.6% of errors are caused by poor controls¹⁸⁹. Their research findings also referred to the fact that there are on average 7.7 to 9.17 detected errors per company¹⁹⁰ and that 3.6% to 6% of errors are intentional.¹⁹¹ Only one fourth of audits reported no errors.¹⁹²

Auditing standards underline the fact that the audit procedures should be planned in such a way that the risk of failing to detect misstatements is minimal. For minimal risk, auditors apply certain procedures, such as attention-directing procedures.¹⁹³ Such attention directing procedures can be analytical review, verbal inquiry of client personnel and expectations based on errors found in prior years. The researchers found that the attention-

¹⁸⁸ R.W. Kreutzfeld and W.A. Wallace, "The Relation of Inherent and Control Risks to Audit Adjustments", **Journal of Accounting, Auditing and Finance**, Summer 1995 cited in Kreutzfeld and Wallace, p.55.

¹⁸⁹ A. Eilifsen, L.A. Austen and W.F. Messier, "Characteristics of Auditor Detected Misstatements: Evidence from Norwegian Audits", Working Paper, 2000 cited in Kreutzfeld and Wallace, p.52.

¹⁹⁰ See the chart in Kreutzfeld and Wallace, p.53.

¹⁹¹ See the chart in Kreutzfeld and Wallace, p.53.

¹⁹² See the chart in Kreutzfeld and Wallace, p.53.

¹⁹³ A. Wright and R.H. Ashton, "Identifying Audit Adjustments with Attention-Directing Procedures", **The Accounting Review**, Vol.64, 4, 1989, p.710.

directing procedures could be quite useful in identifying material adjustments. In this study, 45.6% of a sample of 281 adjustments from 152 audits of Peat Marwick Mitchell & Co. was signaled by such procedures.¹⁹⁴ Wright and Ashton's study also involved asking auditors to rank their selected initial events and error causes. Only the four largest proposed adjustments which are equal to or larger than 20% of the planned materiality were asked. Responses were received from companies in different sectors, such as manufacturing, merchandising, commercial banking, savings and loan, insurance and natural resources. They found that errors affecting asset accounts were split about evenly between overstatement and understatement. They stated the following:¹⁹⁵

- *Liability misstatements tended to be understatements (109 understatements vs 63 understatements),*
- *Inventory and revenue misstatements were equally under- and overstatements*
- *Expense misstatements tended to be understatements (122 understatements vs 98 overstatements,*
- *Accounts receivable errors were mainly overstatements.*

It was also shown that 43 percent of the adjustments would reduce income and that most of the errors arose from insufficient accounting knowledge, judgment problems, cut-off or accrual, mechanical problems, inadequate internal control and personnel problems. These error causes constituted 91 percent of all causes of errors; whereas only three causes, which are insufficient accounting knowledge, judgment problems and personnel problems (all of these are related to each other) made up 55 percent of all causes.

Kreuztfeld and Wallace also found such factors above to be the dominant factors for causes of errors.¹⁹⁶ When the auditors were asked to relate the errors to the initial events listed by the researchers as analytical review, tests of detail-analysis and review, tests of detail-checks for mathematical accuracy, tests of detail-documentation, client inquiry, expectations from the prior year and general audit procedures, the results indicated

¹⁹⁴ Wright and Ashton, p.710.

¹⁹⁵ *ibid.*, p.716.

¹⁹⁶ *ibid.*, p.718.

that expectations from the prior year, client inquiry and analytical review signaled more than half of the adjustments. Tests of detail-analysis and review should not be confused with analytical review as the former refers to examination of transaction amounts and descriptions, account balance details, work-ups to support account balances and data appearing on various types of reconciliations and the latter refers to comparisons of current unaudited balances with balances of prior years, predictions of current balances based on exogenous data and analyses of interrelationships among account balances.¹⁹⁷

Haskins and Henarie¹⁹⁸ conducted a study based on attributes and impact of client's control environment. They started off with interviews with experienced auditors and they came up with the codified list of certain control environment attributes. They continued with surveying audit engagement teams as to what importance they would assign to such attributes. Open ended questions were added in order for their further comments. Haskins and Henarie followed up on the results of the survey through a post-survey interview with the experienced managers. Control environment concepts ranked in order of importance were as follows:

1. *Existence of an appropriate policy for the authorization of transactions.*
2. *Proper segregation of duties among client employees whose work is related to the financial reporting process (e.g. financial management, EDP, accounting and internal audit personnel).*
3. *Effectiveness of general EDP controls.*
4. *Effectiveness of physical safeguards over records and assets.*
5. *Appropriateness of the internal audit staff's assigned duties, responsibilities, and lines of reporting.*
6. *Existence of factors that might motivate managers to circumvent or override existing controls (e.g. tight credit, low working capital, bonus plans, need to meet forecasts, decaying industry etc.).*
7. *Compulsion on the part of the client's top, executive management for reporting the most favorable financial picture.*

¹⁹⁷ Wright, p.718.

¹⁹⁸ Haskins and Henarie, p.23.

8. *Effectiveness of the internal audit staff in reporting detected deficiencies.*
9. *Extent of knowledge on the part of the client's controller concerning FASB and SEC (where appropriate) guidelines.*
10. *Promptness with which errors in internal financial reports are detected and corrected.*
11. *Potential for errors in internal financial reports.*
12. *Reputation of the client's top, executive management for taking unusual business risks.*
13. *Effectiveness of internal financial reports in adequately highlighting, identifying or isolating problems.*
14. *Extent of turnover in the client's top, executive management positions and the reasons for it.*
15. *Effectiveness of coordination among related functions for financial reporting purposes (e.g. sales, accounting, and production).*
16. *Inferences that can be drawn concerning the relationship between prior audit adjustments and the competence of the relevant personnel.*
17. *Appropriateness of the separate accounting systems for each of the client's diversified business endeavours (e.g. a client might have a mining division and a banking division).*
18. *Effectiveness of the client's policies and procedures manuals in regard to the financial reporting process.*
19. *Manner in which recommendations of internal and external auditors have been dealt with in the past.*
20. *Conscientiousness of the audit committee in the execution of their duties and responsibilities.*
21. *Adequacy of a client's analysis of budget variances.*
22. *Timeliness with which financial managers receive the information they need.*
23. *Extent to which the client's top, executive management is dominated by one or a few individuals.*
24. *Adequacy of the client's budgetary process in covering all units or functions.*
25. *Appropriateness of the client's actions in response to the Foreign Corrupt Practices Act of 1977.*

26. *Extent to which native personnel managing the client's foreign operations are allowed to exercise their discretion to financial reporting decisions.*
27. *Appropriateness of the client's chart of accounts.*
28. *Accessibility of supervisors to employees, both of whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).*
29. *Appropriateness of client policies and practices of required vacations and rotation of duties for employees whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).*
30. *Extent to which the client's line personnel (i.e. operations) review internal financial reports.*
31. *Congruency of responsibility with authority for the client's employees whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).*
32. *Manageability of the workloads of client personnel whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).*
33. *Adequacy of the process by which operating budgets are revised.*
34. *Incompatibility (if any) of centralized client management over decentralized operations.*
35. *Extent to which the client investigates the backgrounds and references of new employees whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).*
36. *Qualifications of the members of the Board of Directors.*
37. *Qualifications of the members of the audit committee.*
38. *Extent of client bonding of all employees who handle cash, securities etc..*
39. *Effectiveness of a client's communication of formal codes of conduct.*
40. *Appropriateness of client training programs for new or promoted employees whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).*
41. *Relevance of an internal financial report to the person receiving it.*

42. *Adequacy of client planning for staff needs in regard to employees whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).*
43. *Existence of client programs for ongoing evaluation of employees whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).*
44. *Compatibility of the client's formal organizational structure with their organizational goals.*
45. *Extent of a client's monitoring of their competition.*
46. *Compatibility of the client's informal organizational structure with their organizational goals.*
47. *Appropriateness of the information bases used in determining raises and promotions for the client's employees (management or staff) whose work is related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).*
48. *Appropriateness of the information bases used in determining raises and promotions for the client's employees (management or staff) whose work is not directly related to the financial reporting process (e.g. financial management, EDP, accounting, and internal audit personnel).*

Nelson, Libby and Bonner investigated knowledge structures and found that auditors' knowledge structures developed through experience or conveyed by training may either facilitate or inhibit auditors' application of experienced frequencies* to audit decisions.¹⁹⁹

Tubbs²⁰⁰ examined the knowledge of errors for three reasons;

- *SAS No.53 specifically makes the auditor responsible for detecting errors.*
- *Understanding the characteristics of errors and their interaction is important when designing and performing appropriate audit procedures and evaluating the result of these procedures.*
- *There is limited prior research in this area.*

*Knowledge of the frequency with which errors have occurred.

¹⁹⁹ M.W. Nelson, R. Libby and S.E. Bonner, "Knowledge Structure and the Estimation of Conditional Probabilities in Audit Planning", **The Accounting Review**, Vol.70, 1, 1995, p.29.

²⁰⁰ R. Tubbs, "The Effect of Experience on the Auditor's Organization and Amount of Knowledge", **The Accounting Review**, Vol.67, 4, 1992, p.784.

The results show that knowledge of atypical errors are learned fairly early in an auditor's career and that with experience, auditors recall more errors.²⁰¹

Bell et al. reiterated the fact that it has been shown in prior studies that the majority of audit differences (misstatements) arose due to incorrect computations, differences in management and auditor judgment and faulty initial identification and processing of transactions.²⁰² They added that misstatements, if they related to control attributes, were usually associated with inadequately skilled personnel, improper or inadequate independent verifications or improper documents and records.

Glass, Lewis and Co.'s Yellow Card Trend Alert published in 2007 under the title "The Materially Weak" has come up with some important findings on internal control. According to the report, companies disclosed more than 6,000 material weaknesses in their financial reporting controls during 2005 and 2006 and that the pervasive weaknesses tended to be embedded in companies' control environments.²⁰³ Material weaknesses were mostly in the following accounting issues.²⁰⁴

- tax accounting (12% in 2005 and 11% in 2006),
- revenue recognition (9% in 2005 and 8% in 2006),
- expense recognition (5% in 2005 and 6% in 2006),
- capital assets (4% in 2005 and 6% in 2006),
- liabilities and contingencies (5% in 2005 and 2006),
- inventory (6% in 2005 and 5% in 2006),
- acquisitions and investments (4% in 2005 and 5% in 2006),
- other comprehensive income (2% in 2005 and 5% in 2006)
- multiple accounting issues (29% in 2005 and 20% in 2006)

²⁰¹ Tubbs, p.796.

²⁰² Bell et al., p.37.

²⁰³ Grothe, p.11.

²⁰⁴ *ibid.*, p.13.

The report also highlighted the fact that problems with control environment accounted for a considerable percentage of internal control issues in 2005.²⁰⁵

A research on accounting misstatements has revealed that 70% of misstated financial statements were due to misstatements in revenue recognition²⁰⁶. Examples include; booking loans as revenues, not booking sales returns and provisions for doubtful receivables, not eliminating inter-group sales in consolidated accounts, keeping current revenues under reserves until some less profitable year and booking next year's revenues as current revenues.²⁰⁷

As a result of the research through ProQuest Dissertations and Theses²⁰⁸ containing studies mainly from the Anglo-Saxon countries, the following findings were chosen as noteworthy to mention in this study:

Lynette I. Wood²⁰⁹ provided evidence on how decision aid use affected auditor judgment in fraud risk assessment. Having examined the nature of relation between decision aid use and auditors' susceptibility to dilution*, she stated that auditors using a decision aid would exhibit more dilution than auditors making unaided judgments. For example, senior auditors who were asked to assess fraud risk after reviewing a brief case describing a hypothetical client (i.e. decision aided), explicated lower assessments than their counterparts making unaided judgments. This showed that decision aids which may increase the risk of not detecting frauds would result firms exposing themselves to greater levels of legal liability.

²⁰⁵ Grothe, p.17.

²⁰⁶ PCAOB, The Panel on Audit Effectiveness Report and Recommendations, Appendix F – Analysis of SEC Accounting and Auditing Enforcement Releases, www.publicoversightboard.org (31 August 2000) cited in Mısırlıoğlu, p.8.

²⁰⁷ Institute of Management and Administration, "19 Revenue Recognition Mistakes", IOMA's Report on Management: The General Ledger, 2002, p.10 cited in Mısırlıoğlu, pp.8-9.

²⁰⁸ <http://proquest.umi.com>

* described by the author as an information processing bias where non-predictive cues "water down" or dilute the predictive value of diagnostic cues.

²⁰⁹ L.I. Wood, **The Influence of Decision Aid Use on Auditors' Processing of Irrelevant Information in Fraud Risk Assessment**, Unpublished PhD thesis, Indiana University, 2003, pp.1-89.

Results of the study conducted by Thomas M. Kozloski²¹⁰ indicated that auditors do not transfer knowledge regarding the audit planning response to the fraud risk assessment and that increased fraud risk in the target analog do not influence the auditors' risk assessments. Participants who took the survey were not influenced by different solutions to the source analog when given the structurally-similar source.²¹¹ However, when given the surface-similar analog,²¹² they were influenced.²¹³ That is, recall or the association of the surface similar source was higher than that relating to structural source when assessing the level of the risk of fraudulent financial reporting.

Diane Joyce Janvrin²¹⁴ studied the proposal of continuous auditing process. She doubted that the auditors might rely on less competent and or less sufficient evidence due to time and resource constraints. In addition, she explored interactions between source objectivity and internal control effectiveness, evidence timeliness and internal control effectiveness and evidence set size and internal control effectiveness and concludes that a three-way interaction among evidence set size, evidence set composition²¹⁵ and internal control effectiveness²¹⁶ may exist.²¹⁷ Results indicated that internal control effectiveness appears to partially mitigate the impact of evidence limitations requiring the use of internal rather than external evidence for an allowance of doubtful accounts task and for a provision for product warranty claims task.

²¹⁰ Kozloski, pp.1-208.

²¹¹ Structural similarity refers to the correspondence in relations between elements of the source and target. An example from K. Holyoak, and P. Thagard, "Mental Leaps: Nalogy in Creative Thought", Cambridge: The MIT Press, 1995 would be as follows: : "John is heavier than Bill, and Bill is heavier than Sam" is analogous to "Mary is taller than Susan and Susan is taller than Beth" cited in Kozloski, p.40.

²¹² Surface similarity refers to the degree of semantic similarity of the objects and elements regarding the source and target. L. Reeves and R. Weisberg, "The role of content and abstract information in analogical transfer", **Psychological Review**, Vol.115, 3, 1994, pp.381-400 cited in Kozloski, p.39.

²¹³ An example from Holyoak and Thagard would be as follows: "John is heavier than Bill and Bill is heavier than Sam" is analogous to "Communism is more radical than socialism and socialism is more radical than capitalism" cited in Kozloski, p.40.

²¹⁴ D.J. Janvrin, **The Impact of Changes in Selected Evidence Characteristics on Auditor Judgment**, Unpublished PhD Thesis, The University of Iowa, 2001, pp.1-202.

²¹⁵ Evidence set composition refers to whether the evidence set consists of all supporting evidence (positive evidence sets), all contradicting evidence (negative evidence sets), or a combination of supporting and contradicting evidence (mixed evidence sets). P. Caster and K.V. Pincus, "An Empirical Rest of Bentham's Theory of the Persuasiveness of Evidence", *Auditing: A Journal of Practice and Theory*, Vol.15 Supplement, 1996, pp.1-22 cited in Janvrin, p.22.

²¹⁶ Internal control effectiveness refers to the degree to which internal controls operate effectively or productively. Arens and Loebbecke, p. 289.

²¹⁷ Janvrin, p. 95.

Loren L. Margheim²¹⁸ indicated that internal auditor competence/work performance impacts on the external auditors' judgments and that as internal auditor competence/work performance went from a low level to a high level, the external auditors reduced the planned amount of audit time.

Findings of the study authored by Kevin Lamont James²¹⁹ showed that internal audit outsourcing could lead users to feel more confident that the financial statements are free from fraud. Confidence was enhanced due to greater perceived competence and objectivity of outsourced Big Five (currently Big Four) internal audit teams relative to insourced internal audit departments. Bank lender also perceived less threat of fraud when the internal audit was conducted by Big Five. However, the author found no evidence that lenders perceived a greater likelihood that fraud would be detected when the internal audit function was outsourced than when it was retained inhouse.

²¹⁸ L.L. Margheim, **An Empirical Study of External Auditor Reliance on Internal Auditors**, Unpublished PhD Thesis, Arizona State University, 1984, pp.1-133.

²¹⁹ K.L. James, **The Effects of Internal Audit Outsourcing on Financial Statement Users' Confidence in their Protection from Fraudulent Financial Reporting**, Unpublished PhD Thesis, The University of Tennessee, 2000, pp.1-87.

4. RESEARCH ON CONTROL ENVIRONMENT AND ACCOUNTING MISSTATEMENTS

4.1. RESEARCH METHODOLOGY

The sections below explain the objective of the research, significance and scope of the study as well as the research methodology and research questions.

4.1.1. Objective

In this study, the objectives were to determine the level of importance of control environment factors and principles and to find out whether the auditors believed that an establishment of an efficient control environment would prevent material accounting misstatements. In addition, which specific control environment factors would contribute to the avoidability of accounting misstatements was researched.

Inspired primarily by the COSO report, which stated nine control environment factors and the study by Haskins and Henarie, which prioritized control environment concepts long before the COSO report, this study has investigated the perceptions of auditors in Turkey about the control environment and its support on the avoidability of accounting misstatements. In addition, the study has aimed to summarize the most common accounting misstatements upon observation of audit reports from one of the leading audit firms in Turkey and finalizing such observations upon interviews with a select group of senior managers and accounting professors.

4.1.2. Significance of the Study

This study has aimed to show which control environment factors and principles the firms must establish in order to have an efficient control environment as the first step to an efficient internal control.

Moreover, the results has shown the perception of the auditors on whether an efficient control environment would prevent accounting misstatements. The reasons have

been explored in cases where an efficient control environment was believed not to prevent certain accounting misstatements.

Based on the responses from the auditors about the importance of the control environment principles and factors, regression analysis has been conducted to see whether the accounting misstatements could indeed be prevented by the control environment factors.

The results of this study shall be useful for the companies when they would like to establish an efficient control environment and also when they would like to improve their existing control environment. The auditors' opinions as well as the statistical data will support the companies' decisions as to which control environment factors must be primarily focused on.

The results shall also be useful for the auditors as analysis of the control environment factors defined in the COSO report as well as identification of misstatements and the likelihood of the presence of misstatements in an efficient control environment are important for designing and performing appropriate audit procedures and evaluating the results of these procedures. Finally, the study is aimed to pioneer further research on the concept of internal control.

4.1.3. Scope of the Study

Data collection was realized mainly through a questionnaire conducted to auditors in the audit firms which have authorization by the Capital Market Board to audit the public companies. As such audit firms are assumed to have a solid internal control background in order to audit the public companies, a standard awareness of internal control was ascertained by choosing only such authorized audit firms. The questionnaire was also distributed to members of IIAT and senior auditors in CMB. Pre and post-questionnaire interviews with independent auditors, IIAT members, CMB auditors and accounting academics from Marmara University and Istanbul University as well as observation of the

detection reports of a leading audit company was supportive for the design and implementation of the questionnaire.

4.1.4. Research Methodology

According to the COSO report (1994), internal control consists of five *components*, which are “control environment”, “risk assessment”, “control activities”, “information & communication” and “monitoring”. In the report and in this study, control environment component is analyzed under nine control environment *factors*, which are as follows (abbreviations used in this study are shown in parantheses next to each factor):

- Integrity and Ethical Values Factor (“IEV”)
- Incentives and Temptations Factor (“IT”)
- Board of Directors / Audit Committee Factor (“BD/AC”)
- Management Philosophy and Operating Style Factor (“MPOS”)
- Competence Factor (“CPT”)
- Organizational Structure Factor (“OS”)
- Assignment of Authority and Responsibility Factor (“AAR”)
- Human Resources Policies and Practices Factor (“HRPP”)
- Moral Guidance (“MG”)

We have developed three *principles* to represent each factor above, except for human resources policies and practices factor, which has been represented by four principles (i.e. a total of 28 control environment principles). All such control environment principles are explained in detail in sections 4.2.2.1. through 4.2.2.10.

The methodology used for this research was an online questionnaire conducted through freeonline surveys, an online survey website. A link was sent to such potential participants and clicking on the link enabled them to open the questionnaires on their personal computers. Such a method was first of all cost efficient, except for the monthly subscription fee of the website, time saving for the participants and myself, as the instructions were user friendly for the participants and the compilation of the data was easier than the conventional paper questionnaires sent by ordinary mail. Also, the online questionnaire was environment friendly as it was possible to save hundreds of papers.

Apart from the questionnaire, pre- and post-questionnaire interviews were conducted.

The pre-survey interviews were semistructured in the sense that the control environment principles were presented and the auditors and academics were asked whether they were material and up-to-date and whether there were any other principles that need to be included. Subsequent to the interviews, the compiled list of principles was checked against the definitions of the control environment factors stated in the COSO Report and updated according to the report and finally, these principles were summarized so that they could be presented in a questionnaire. As for the accounting misstatements, observations of detection reports from a leading audit company and the updating of such observations through interviews with auditors and academics were realized. It must be noted that the sample detection reports presented in Appendix 2 was just a starting point and they mainly included tax misstatements, yet, the accounting misstatements used in the questionnaire were defined based on interviews with independent auditors, IIAT members, CMB auditors and accounting academics.

Post-questionnaire interviews were realized after a pilot implementation of the questionnaire in order to help spot errors due to research design and misstatements. A group of academics and auditors were the first ones to take the questionnaire and after a

final amendment based on the feedback from these academics and auditors, the questionnaire was ready for distribution.

The questionnaires were filled in by 120 participants. However, 10 questionnaires were excluded as 3 participants had marked the same choices throughout the questionnaire (not seeming reliable), 5 participants were only interns (not assumed to have adequate experience) and 4 questionnaires were dublicately received (hence only 2 were considered).

As the variables to be regressed are nine control environment concepts, a respondent level of 110 participants was assumed to be representative. The level of precision, confidence interval, statistical analysis to be implemented and the size of the population are determining factors of the sample size. However, for most of the statistical analyses, there must be at least 30 samples as there are only a limited number of statistical techniques for such a sample size and such techniques are often subject to lots of drawbacks.²²⁰ Most common rules adhered to by the academics are as follows:²²¹

- A sample size of more than 30 and less than 500 is sufficient for most of the research topics.
- If the samples are divided into subcategories, such as age, gender, position etc., each subcategory must have at least 30 samples.
- For most multivariate analyses, including regression analysis, 10 times the quantity of the variables is usually a sufficient sample size.

The population size, though not absolute, is around 3000 auditors (including IIAT members, CMB auditors and auditors in authorized audit firms). All of the audit firms approached were reluctant to give the exact number of auditors currently employed, so, the population size was estimated through a inductive approach based on feedbacks from some current employees in these audit firms. Yet, it must be noted that 2007 audits of the ISE

²²⁰ R. Altunışık et al., *Sosyal Bilimlerde Araştırma Yöntemleri SPSS Uygulamalı*, Sakarya Yayıncılık, 2007, p.126

²²¹ *ibid.*, pp.127-128.

listed companies were realized by a total of 103 auditors and their team (usually one or two team members).

The hypothesis tested in this research is that control environment factors and principles will avoid material misstatements. A linear regression analysis would show the relationship between the dependent variable (i.e. 10 most common accounting misstatements) and independent variables (i.e. 9 control environment factors). However, linear regression was not applied as our data are not normally distributed (see Table 4.8) and the outcome variable is not continuous and unbounded. Therefore, binary logit regression, which is used to describe the relationship between one or more independent variables and only one outcome such as the accounting misstatement in question, was preferred. Through an inductive approach of receiving responses from 110 auditors, the aim was to generalize the data to the whole population.

Pre-testing of the data included correlation analyses. The details of the variables that were subject to regression analysis are provided in section 4.2.2.11.

The questionnaire, presented in Appendices 3 (in English) and 4 (in Turkish), consisted of three parts explained in detail as follows:

The first part was about the control environment factors as listed in the COSO report. The definitions of each factor has been summarized under three control environment principles, except for human resource policies and practices factor, which was summarized under four control environment principles. Such principles have been set up in such a way that combination of such principles under each factor is a maximum likelihood representative for that factor in the COSO report. For instance, marking all three principles under the IEV as important would mean marking the factor itself as important since combination of those three principles is assumed to be a good representative of the factor itself.

The primary source of inspiration, as it was previously stated, was a study by Haskins and Henarie conducted in 1985. The study had aimed at conducting interviews with the senior audit managers and compiling data on control environment principles (named by Haskins and Henarie as “control environment concepts”), and finally, prioritizing such principles with respect of their importance. The second point of inspiration was the COSO report and the desire to see how effective these control environment factors would be to prevent accounting misstatements. Therefore, the first part of the questionnaire is primarily based on the nine control environment factors from the COSO report and as inspired by Haskins and Henarie, the idea has been to develop three or four control environment principles for each factor and ask the auditors’ opinions on the level of importance of each principle for an efficient control environment. As a result, control environment principles set forth previously by Haskins and Henarie were updated and ranked based on the feedback not only from the independent auditors but also from the IIAT members and CMB auditors.

The second part of the questionnaire aimed at finding out the most common accounting misstatements and to ask the auditors’ opinions as to which control environment factor would prevent the accounting misstatement in question. Accounting misstatements can stem from error or fraud. No distinction has been made hereof between error and fraud, however, differences between error and fraud have been explained in full in section 2.2. of this study. Only ten most common accounting misstatements have been listed in the questionnaire and in order to come up with such misstatements, two methods were chosen. One of the methods was to go through a bunch of detection reports received from one of the top ten audit firms in Turkey. The detection reports were specifically picked as those reports with the highest amount of detected misstatements during the audits. At least one and at most two detection reports were examined for each sector. A summary of such misstatements is presented in Appendix 2. As it has been highlighted before, these misstatements were mainly tax related and therefore, they have been used solely for the purposes of inspiration and that the main accounting misstatements were compiled based on interviews with two senior managers from E&Y, one senior manager from Deloitte, one

senior manager from CMB, two accounting professors from Marmara University and one accounting professor from Istanbul University. As a result of such observations and interviews, ten most common accounting misstatements (used as dependent variables in the regression analyses) were specified as follows (abbreviations used in this study and the relevant question on the questionnaire are shown in parantheses next to each misstatement):

- Missing Documents: Voided invoices and some other documents, including invoices and disbursement vouchers are missing from the files and some of the existing ones are not indexed in proper order. (Q11 in the questionnaire)
- Personal Expenses: Company expenses include personal expenses, such as owner's fuel and travel expenses. (Q13 in the questionnaire)
- Capitalizing and Expensing: Purchases of fixed assets and relevant expenditures of such purchases or expenditures to increase the capacity or economic life of the existing fixed assets were not capitalized. (Q15 in the questionnaire)
- Thin Capitalization: Due from shareholders or related parties of shareholders exceed three times the company's owners' equity. (Q17 in the questionnaire)
- Transfer Pricing: It has been observed that costs were inflated by paying high commissions on purchases of inventories and supplies from a related party, without the minority shareholders being aware of it. (Q19 in the questionnaire)
- FX rates: Valuations of sales, expenses, bank transactions and other FX transactions were done by using various rates other than Central Bank bid

rate and valuations of foreign cash were done by using various rates other than Central Bank effective bid rate. (Q21 in the questionnaire)

- Problems with IFRS 12, 21, 27 and 39: Reportings in accordance with IFRS or TFRS include errors, including errors especially in the valuation of derivatives (IAS/TMS 39), eliminations in consolidated financial reports (IAS/TMS 27), deferred tax computations (IAS/TMS 12) and reporting in financial currency (IAS/TMS 21). (Q23 in the questionnaire)
- Misstatement of Cost Of Sales: Formulation errors and confusion between general&administrative expenses and manufacturing overhead have been observed in the computation of cost of goods sold. (Q25 in the questionnaire)
- Problems with Consistency: Inconsistency among depreciation rates and economic lives of fixed assets was observed over the periods. (Q27 in the questionnaire)
- Problems with Matching: Prepaid expenses and unearned revenues were not accounted for in compliance with the matching principle of accounting. (Q29 in the questionnaire)

The third and last part of the questionnaire aimed at exploring general data on auditors such as level of education, years of experience in the sector and whether they have received any training on internal control. The responses have been used to see whether there are significant differences in the responses of different groups of participants.

4.1.5. Research Questions

The questionnaire conducted in Turkish and the translation of the questionnaire into English for the sake of non-local users of this study are provided in Appendices 4 and 3, respectively.

The questionnaire from which the results of the research were extracted from consisted of three parts: The first part comprised questions on the importance of control environment principles, second part was about the accounting misstatements and their avoidability by control environment and the third part included personal questions.

Most of the questions on the questionnaire were mandatory, but, some questions on general data, such as “company you work for” were left optional in order to respect confidentiality concerns of the participants of the survey. Yet, 52% of the participants declared the name of the company they worked for. Also, nearly half of the respondents provided their email addresses in order to receive the results of the survey. Although more than half of such respondents provided their non-official emails, providing emails showed that respondents were eager both to contribute to the survey by taking part and to receive the results.

The research questions comprise the following:

1. Which control environment principles are important in order to form an efficient control environment?
2. According to the auditors, what percentage of audit clients in Turkey has established effective control environments?
3. Can common accounting misstatements be prevented by an efficient control environment? If so, which control environment factor is the most efficient one to prevent the accounting misstatement in question?
4. In general, what percentage of accounting misstatements can be prevented by an efficient control environment?
5. Why is not possible to avoid all accounting misstatements through an efficient control environment?

Additionally, the survey provided answers to the following questions:

6. What percentage of auditors goes through training on internal control?
7. Are the answers given by licenced auditors any different from those given by unlicenced auditors?
8. Are the answers given by senior auditors any different from those given by junior auditors?
9. Are the answers given by auditors with an experience of 6 years and above any different from those given by auditors with an experience of up to 5 years?
10. Are the answers given by auditors who had training on internal control any different from those given by auditors who were not trained on internal control?
11. Are the answers given by auditors with a bachelor's degree any different from those given by auditors with a master's degree or PhD?

4.2. ANALYSIS OF FINDINGS

Profiles of respondents, ranking of control environment principles, frequency of effective control environment in audit clients, auditors' views on the avoidability of accounting misstatements by an efficient control environment, impact of an effective control environment on the most common accounting misstatements, and regression analyses of control environment factors as independent variables and accounting misstatements as dependent variables are provided in the following sections.

4.2.1. Profiles of Respondents

The questionnaire was primarily sent to senior auditors in top four auditing firms in Turkey, which are PWC, E&Y, Deloitte and KPMG. Members of IIAT were also among

the main targets of this questionnaire, and so were the CMB auditors. In addition, other audit firms who hold an authorization from CMB to audit the companies under CMB directives were targeted.

As public announcement of audit firms currently auditing the quoted companies is not allowed, we had to go through the audit reports of quoted companies one by one and make a list of those currently auditing the companies. This list is not provided in this study for confidentiality reasons but market shares of audit firms that audited year 2007 financial statements of quoted companies on the ISE were as follows:

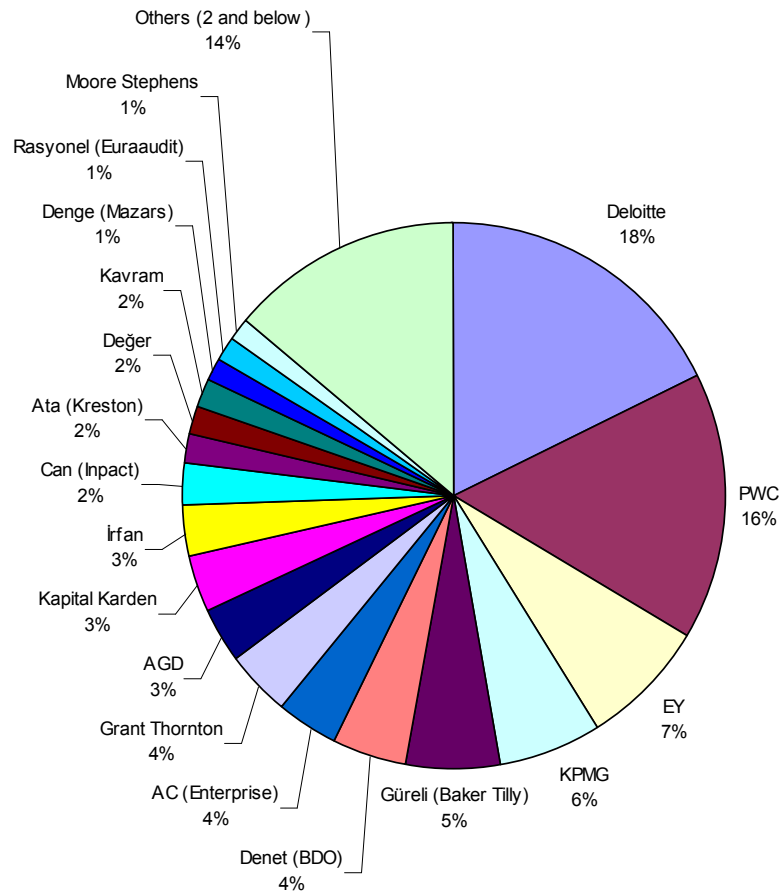


Figure 4.1. Share of Audit Firms Currently Auditing Firms on the ISE

The market shares were the determining factor for the distribution of the questionnaires. As the market shares have shown, Deloitte holds the biggest market share, closely followed by PWC. Together, they account for 34% of the market. It would not be wrong to say that there are mainly two audit companies and the rest of the market is shared among multiple audit firms. The closest competitors of Deloitte and PWC seem to be E&Y, KPMG and Güreli (Baker Tilly), with market shares of 7%, 6% and 5%, respectively. Based on the market shares, when the questionnaires were distributed, the aim was to receive as many responses as possible from independent auditors in Deloitte and PWC as well as from internal auditors in the IIAT and CMB auditors. Especially, internal auditors were keen on contributing to this research, in line with the internal audit's role, which aims to improve systems of governance, management and internal control.²²²

It was not possible to obtain the exact number of auditors in these companies as top 4 audit firms' HR departments were contacted and they all returned by stating they did not want to disclose such information. However, based on the estimates received informally from the auditors, total number of auditors in the market is around 3000. Yet, it must be noted that 2007 audits of the ISE listed companies were realized by a total of 103 auditors and their team members (usually one or two team members).

4.2.1.1. Level of Education of Respondents

As the figure below shows, 31% of the respondents had a master's degree and 6% had a PhD degree and that all other respondents had at least a bachelor's degree.

²²² P. Tarling, "The Progressive Internal Auditor, The Rock Star", **XII. Internal Audit Congress, Turkey: Developing and Enhancing Internal Audit**, 7 November 2008, p.32.

Education levels of the respondents were as follows:

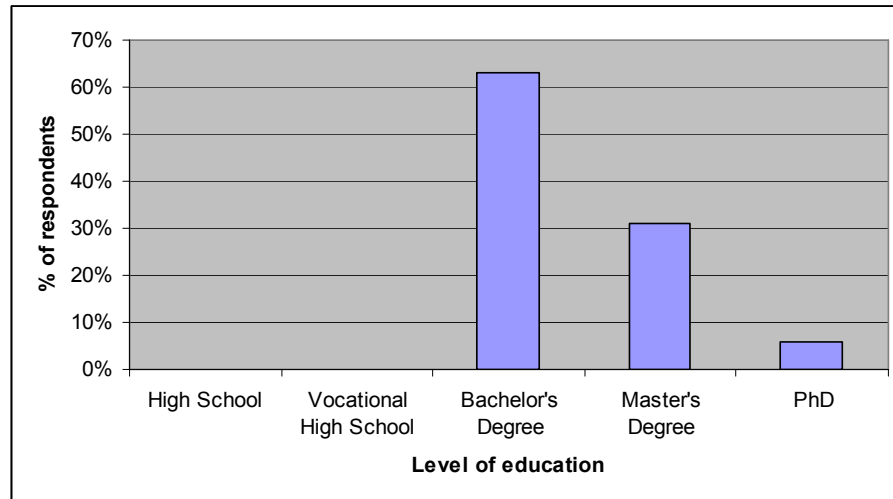


Figure 4.2. Level of Education of the Respondents

The T-tests (see Appendix 7) for level of education showed that the responses given by the participants with a bachelor's degree were not much different from those with a master's degree or a PhD, except for Q2B and Q13 in the questionnaire provided in Appendix 3.

The table below shows that respondents with a bachelor's degree assumed higher importance on the non-existence of motivational factors than respondents with a master's degree or PhD. Also, the former group viewed misstatements with regard to personal expenses as more definitely avoidable than the latter group.

Table 4.1. Means of Responses Based on Level of Education

Code	Question	Mean (Bachelor's degree)	Mean (Master's or PhD)
Q2B	Incentives and Temptations - No motivational factors for managers to circumvent or override existing internal control	1.48	1.64
Q13	Avoidability of personal expenses by an efficient control environment	1.91	2.02

This finding can be interpreted as negligible, since the total number of questions analyzed through T-tests was 40 and only two questions were significant out of these 40 questions.

4.2.1.2. Experience and Seniority of Respondents

On average, the respondents had an audit experience of 8.1 years and the years of experience ranged from 1 to 38 years. More than 50% of the auditors had an experience of 6 years and above. Again, more than 50% of the auditors were experienced auditors at minimum.

The T-tests (see Appendix 7) for experience showed that the responses given by the participants with an experience level of upto 5 years were not much different from those given by participants with an experience level of 6 years and more, except for Q2A, Q3B, Q3C, Q5C, Q8B, Q10 and Q11 in the questionnaire provided in Appendix 3.

The table below summarizes the means of responses for such questions:

Table 4.2. Means of Responses Based on Years of Experience

Code	Question	Mean (upto 5 years)	Mean (6 years and more)
Q2A	Safeguarding of assets and records	1.38	1.24
Q3B	An Audit Committee with adequate qualifications	1.52	1.27
Q3C	A conscientious Board of Directors / Audit Committee in executing their duties and responsibilities	1.30	1.15
Q5C	Knowledge of current laws and regulations by financial reporting managers and adherence to such laws and regulations	1.42	1.27
Q8B	Proper review of the backgrounds and references of new employees and an efficient training for new employees	1.84	1.65
Q10	Percentage of audit clients with an efficient control environment	2.42	2.44
Q11	Avoidability of missing documents by an efficient control environment	1.49	1.35

The table indicates clearly that respondents with a higher experience viewed the above control environment principles (Q2A, Q3B, Q3C, Q5C and Q8B) as more important principles for an efficient control environment. Significant Q10 is an indicator of the fact that auditors with an experience of 6 years and more thought that a higher percentage of their clients had an efficient control environment. As for Q11, respondents with a lower experience see the misstatements from missing documents not as avoidable as the higher experienced respondents.

Since two principles under Q3 (BD/AC) were significant, it may be interpreted as higher level of experience leads to acknowledgement of importance of board of directors and audit committee in an organization.

Distribution of seniorities is provided below:

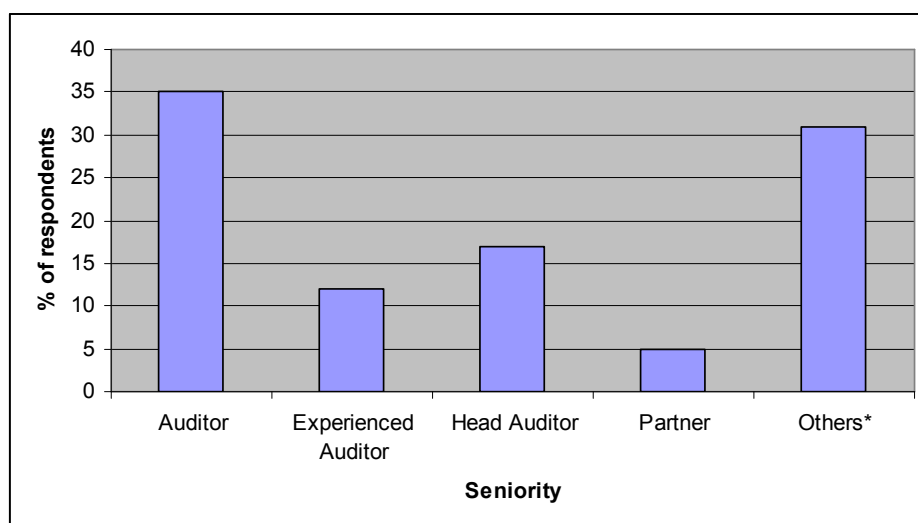


Figure 4.3. Seniorities of the Respondents

*The reason for the high share of “others” can be explained as follows: The seniorities above were the official seniorities. However, in audit firms, seniorities are usually as auditor, senior auditor, assistant manager, manager, experienced manager, director and partner. Therefore, certain respondents chose to tick “others” and state their seniorities as it is indicated on their business cards. Also, internal auditors, retired auditors and CMB inspectors were among the “others”. When the others are distributed, the percentage of others falls from 32% to 10%, the percentage of auditors rise to 45% from 35% and the percentage of head auditors rise to 26% from 17%.

The T-tests (see Appendix 7) for seniority showed that the responses given by auditors and experienced auditors were not any different from those given by head auditors and partners, except for Q4A, Q9A and Q31 in the questionnaire provided in Appendix 3.

The table below summarizes the means of responses:

Table 4.3. Means of Responses Based on Seniority

Code	Question	Mean (low seniority)	Mean (high seniority)
Q4A	Appropriate risk taking in line with the company's abilities and capacity	1.63	1.90
Q9A	Proper communication of code of conduct to the employees and effective implementation of the code of conduct	1.68	1.82
Q31	Percentage of accounting misstatements avoidable by an efficient control environment	3.53	3.33

Value of importance on appropriate risk taken in line with the company's abilities and capacity as well as proper communication and effective implementation of the code of conduct was higher for the less senior auditors than for the auditors with higher seniority. Auditors with a higher seniority viewed that a lesser percentage of accounting misstatements could be prevented by an efficient control environment.

This finding can be interpreted as negligible, since the total number of questions analyzed through T-tests was 40 and only three questions were significant out of these 40 questions.

4.2.1.3. Licences of Respondents

Around 18% of the respondents had a CIA certificate and approximately half of these respondents had CFE, CISA and CFSA certificates in addition to the CIA certificates. Only 1 respondent held an SM licence. 30% had a SMMM licence and when combined with respondents who hold multiple licences, this percentage reaches around 35%. 49%

did not yet have a licence. As it is the case in Turkey, auditors are not required to hold a licence unless they are promoted to manager level.

The T-tests (see Appendix 7) showed that the responses given by the participants with a licence were not much different from those without a licence, except for Q2A, Q3B, Q3C, and Q11 in the questionnaire provided in Appendix 3.

The table below summarizes the means of responses:

Table 4.4. Means of Responses Based on Licence

Code	Question	Mean (without licence)	Mean (with licence)
Q2A	Safeguarding of assets and records	1.33	1.23
Q3B	An Audit Committee with adequate qualifications	1.44	1.29
Q3C	A conscientious Board of Directors / Audit Committee in executing their duties and responsibilities	1.28	1.17
Q11	Avoidability of missing documents by an efficient control environment	1.49	1.35

The table reveals that respondents without a licence placed less importance on Q2A, Q3B and Q3C than those with a licence. In addition, licenced auditors believed misstatements from missing documents were more likely to be prevented by an efficient control environment.

Since two principles under Q3 (BD/AC) were significant, it may be interpreted as higher level of experience leads to acknowledgement of importance of board of directors and audit committee in an organization.

4.2.1.4. Training of Respondents

In order to support the reliability of the responses, the questionnaire also asked whether the respondents ever took training on internal control. The results showed that a vast majority (70.4%) were trained on internal control.

The T-tests (see Appendix 7) showed that the responses given by the participants with training on internal control were not any different from those without training on internal control, except for Q1A, Q2A, Q7B, Q9C, and Q19 in the questionnaire provided in Appendix 3.

The table below summarizes the means of responses:

Table 4.5. Means of Responses Based on Training

Code	Question	Mean (without training)	Mean (with training)
Q1A	No pressure on the managers to reach unrealistic performance goals, especially in the short run (example: no bonuses tied to such unrealistic goals)	1.91	1.66
Q2A	Safeguarding of assets and records	1.39	1.28
Q7B	Proper specification of who to execute and to company transactions	1.67	1.47
Q9C	Follow up on the level of competition among the employees and prevention of unethical competition among them as much as possible	1.70	1.92
Q19	Avoidability of misstatement from transfer pricing by an efficient control environment	1.97	1.91

The results in the table show that the former three principles (Q1A, Q2A and Q7B) were not viewed as important by the auditors who did not have training on internal control as they were viewed by the auditors with training. On the other hand, auditors with training placed less importance on follow-up on the level of competition among the employees and

prevention of unethical competition among them as much as possible. Furthermore, misstatements from transfer pricing were not believed as avoidable by the auditors with training as it was by the auditors without training.

This finding can be interpreted as negligible, since the total number of questions analyzed through T-tests was 40 and only three questions were significant out of these 40 questions.

4.2.2. Ranking of Control Environment Principles

The control environment principles listed in the Part I of the questionnaire were marked by the participants according to the degree of importance they assumed for such principles. A summary of the results based on nine factors of the control environment is provided in the following subsections.

4.2.2.1. Integrity and Ethical Values Factor

Principles under the IEV (Q1) comprised the following:

- No pressure on the managers to reach unrealistic performance goals, especially in the short run (example: no bonuses tied to such unrealistic goals) (Q1A)
- Existence of ethical values based the concerns of employees, suppliers, clients, community and competitors (Q1B)
- Existence of code of conduct and the appropriateness of the code of conduct to company and community culture (Q1C)

More than half of the respondents marked the first and the second principle as “important” and the third principle as “very important”. In this factor, the principle receiving the highest percentage of “most important” marks was the third principle. However, in terms of means of responses provided in Table 4.6., the second principle was the most important principle.

The frequencies of responses are provided in Figure 4.4. below:

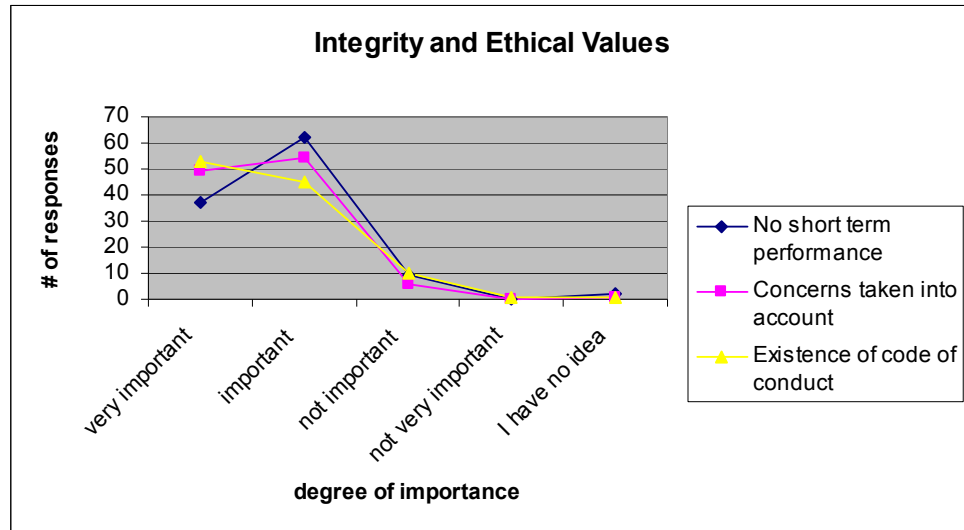


Figure 4.4. Responses to IEV

4.2.2.2. Incentives and Temptations Factor

Principles under the IT (Q2) comprised the following:

- Safeguarding of assets and records (Q2A)
- No motivational factors for managers to circumvent or override existing internal control (Q2B)
- Adherence to financial reporting manuals (Q2C)

The first principle was marked as either “important” or “very important” by the respondents. The other two principles received responses from all degrees of importance. However, majority of the respondents marked the former two principles as “very important” and the last principle as “important”. In this factor, the principle receiving the highest percentage of “most important” marks was the “safeguarding of assets and

records”. Also, in terms of the means of responses provided in Table 4.6., this principle is the most important.

The frequencies of responses are provided in Figure 4.5. below:

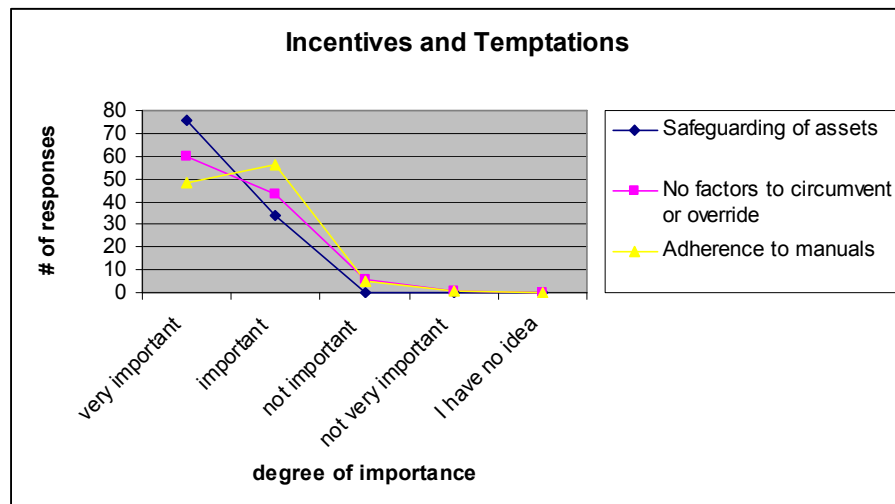


Figure 4.5. Responses to IT

4.2.2.3. Board of Directors or Audit Committee Factor

Principles under the BD/AC (Q3) comprised the following:

- Existence of members from outside in the Board of Directors / Audit Committee (Q3A)
- An Audit Committee with adequate qualifications (Q3B)
- A conscientious Board of Directors / Audit Committee in executing their duties and responsibilities (Q3C)

All three principles received responses from all degrees of importance. However, majority of the respondents marked the latter two principles as “very important” and the first principle as “important”. In this factor, the principle receiving the highest percentage

of “most important” marks was “a conscientious BD/AC in executing their duties and responsibilities”. Also, in terms of the means of responses provided in Table 4.6., this principle is the most important.

The frequencies of responses are provided in Figure 4.6. below:

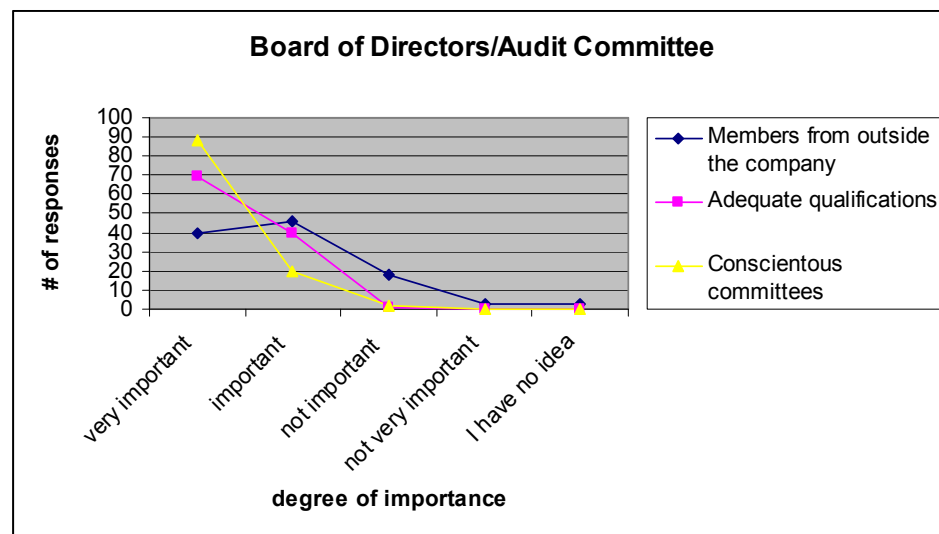


Figure 4.6. Responses to BD/AC

4.2.2.4. Management Philosophy and Operating Style Factor

Principles under the MPOS (Q4) comprised the following:

- Appropriate risk taking in line with the company’s abilities and capacity (Q4A)
- Importance placed by the company management on the auditors’ previous detections and suggestions, and importance placed particularly on internal control (Q4B)
- No predominance of management by only one person (Q4C)

All three principles received responses from all degrees of importance. However, majority of the respondents marked the latter two principles as “very important” and the first principle as “important”. In this factor, the principle receiving the highest percentage of “most important” marks was “importance placed by the company management on the auditors’previous detections and suggestions, and importance placed particularly on internal control”. Also, in terms of the means of responses provided in Table 4.6., this principle is the most important.

The frequencies of responses are provided in Figure 4.7. below:

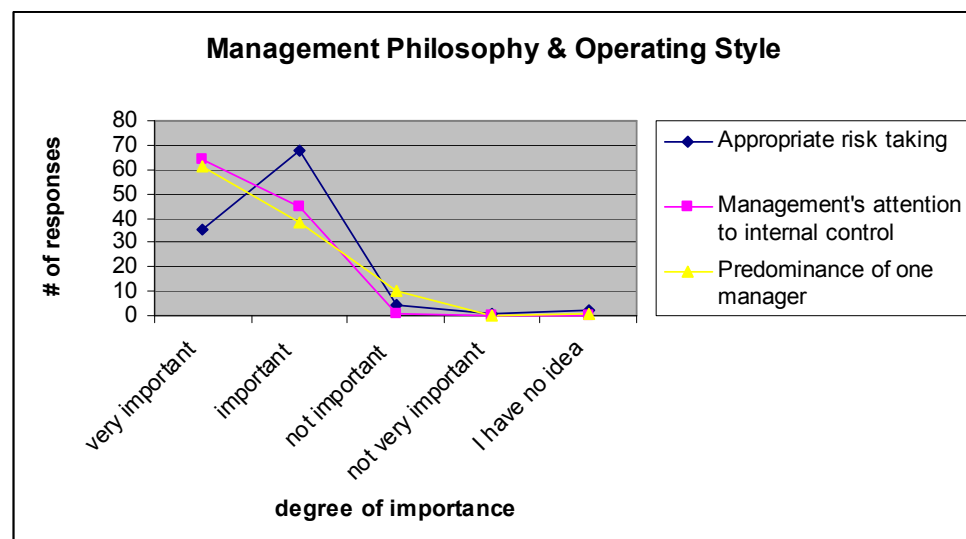


Figure 4.7. Responses to MPOS

4.2.2.5. Competence Factor

Principles under the CPT (Q5) comprised the following:

- Specification of knowledge and skills for each duty and existence of personnel possessing such knowledge and skills relevant for each duty (Q5A)

- Competence of the internal auditors in detecting misstatements and proper reporting of such misstatements (Q5B)
- Knowledge of current laws and regulations by financial reporting managers and adherence to such laws and regulations (Q5C)

None of the principles received “not very important” responses and each one received only one “not important” response. Majority of the respondents marked the latter two principles as “very important” and the first principle as “important”. In this factor, the principle receiving the highest percentage of “most important” marks was “knowledge of current laws and regulations by financial reporting managers and adherence to such laws and regulations”. Also, in terms of the means of responses provided in Table 4.6., this principle is the most important.

The frequencies of responses are provided in Figure 4.8. below:

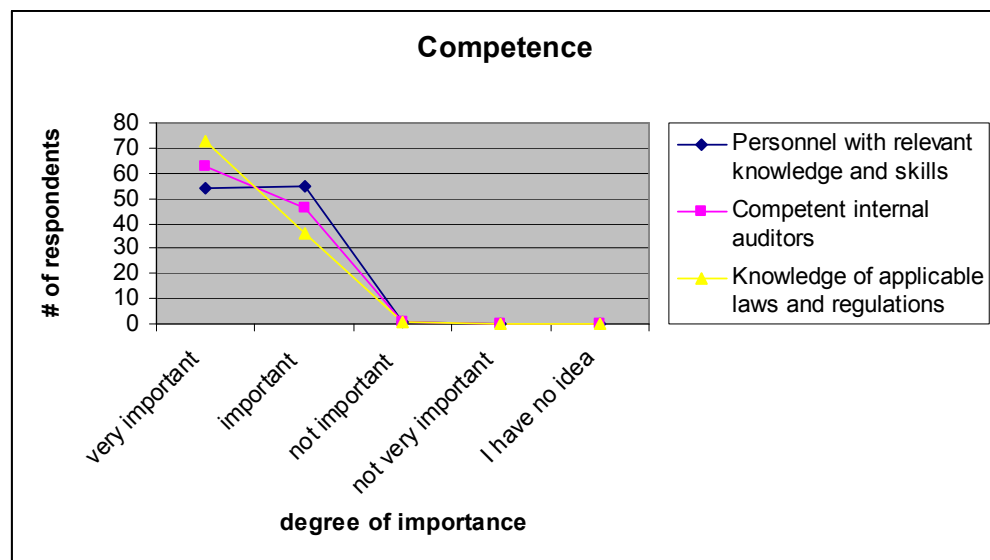


Figure 4.8. Responses to CPT

4.2.2.6. Organizational Structure Factor

Principles under the OS (Q6) comprised the following:

- Effective appropriation of reporting areas, responsibilities and duties to internal auditors (Q6A)
- An organizational structure compatible with the company goals and company size (Q6B)
- Auditors' easy accessibility to employees, executive management and Board of Directors / Audit Committee (Q6C)

First and third principles did not receive any “not very important” responses. Only one of the respondents did not have an opinion on the importance of the last principle. Majority of the respondents marked the last principle as “very important” and the first and second principles as “important”. In this factor, the principle receiving the highest percentage of “most important” marks was “Auditors' easy accessibility to employees, executive management and Board of Directors / Audit Committee”. Also, in terms of the means of responses provided in Table 4.6., this principle is the most important.

The frequencies of responses are provided in Figure 4.9. below:

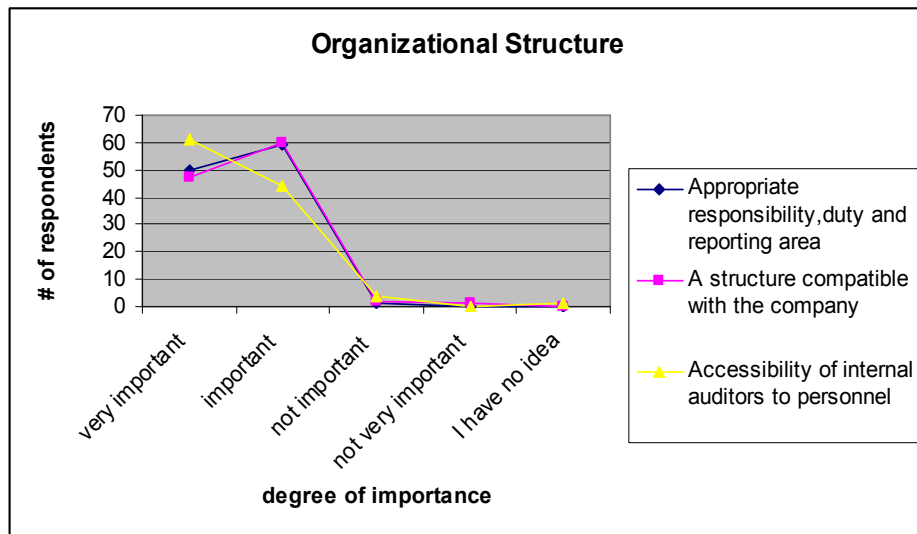


Figure 4.9. Responses to OS

4.2.2.7. Assignment of Authority and Responsibility Factor

Principles under the AAR (Q7) comprised the following:

- Proper segregation of duties among the employees and specification of relationships among them in terms of reporting (Q7A)
- Proper specification of who to execute and to approve company transactions (Q7B)
- Proper specification of employees authorized to exert an initiative (Q7C)

None of the principles received any “not very important” responses but two respondents did not have an opinion on the importance of the first and the last principle. Majority of the respondents marked the first and the last principle as “very important” and the second principle as “important”. In this factor, the principle receiving the highest percentage of “most important” marks was “proper segregation of duties among the

employees and specification of relationships among them in terms of reporting”. Also, in terms of the means of responses provided in Table 4.6., this principle is the most important.

The frequencies of responses are provided in Figure 4.10. below:

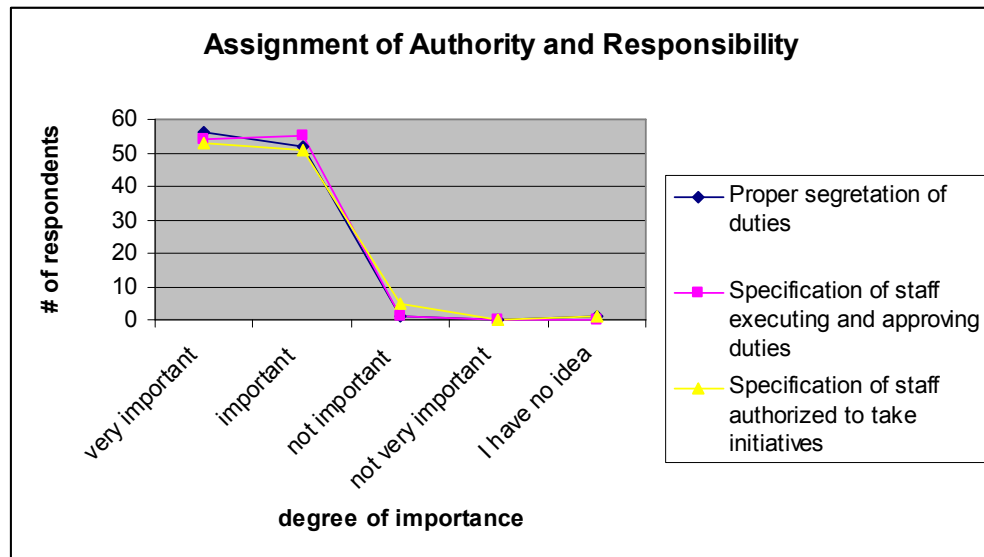


Figure 4.10. Responses to AAR

4.2.2.8. Human Resources Policies and Practices Factor

Principles under the HRPP (Q8) comprised the following:

- Vacations and rotation of duties compatible with the company code of conduct and other regulations (Q8A)
- Proper review of the backgrounds and references of new employees and an efficient training for new employees (Q8B)
- Personnel evaluations to be conducted regularly and objectively and determining raises and promotions on such evaluations (Q8C)
- No frequent turnover in the top, executive management positions (Q8D)

Only the first principle received “not very important” responses and none of the principles was marked by the majority of the respondents as “very important”. In this factor, the principle receiving the highest percentage of “most important” marks was “proper review of the backgrounds and references of new employees and an efficient training for new employees”; however, majority of the respondents marked this principle as “important”. In terms of the means of responses provided in Table 4.6., the third principle, that is, “personnel evaluations to be conducted regularly and objectively and determining raises and promotions on such evaluations” is the most important of all the principles under this factor.

The frequencies of responses are provided in Figure 4.11. below:

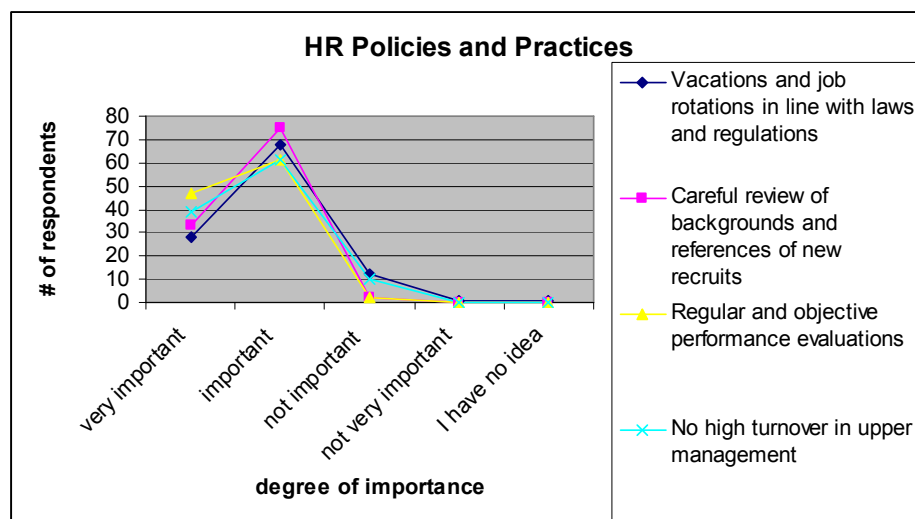


Figure 4.11. Responses to HRPP

4.2.2.9. Moral Guidance Factor

Principles under the MG (Q9) comprised the following:

- Proper communication of code of conduct to the employees and effective implementation of the code of conduct (Q9A)

- Bonding of all employees who handle cash, securities through certain indemnities (Q9B)
- Follow up on the level of competition among the employees and prevention of unethical competition among them as much as possible (Q9C)

This factor received responses from all degrees of importance. Also, a number of respondents stated that they did not have an opinion on the degree of importance of the second and third principles. Majority of the respondents marked these principles as “important”. In this factor, the principle receiving the highest percentage of “most important” marks was “proper communication of code of conduct to the employees and effective implementation of the code of conduct”. Also in terms of the means of responses provided in Table 4.6., this principle is the most important.

The frequencies of responses are provided in Figure 4.12. below:

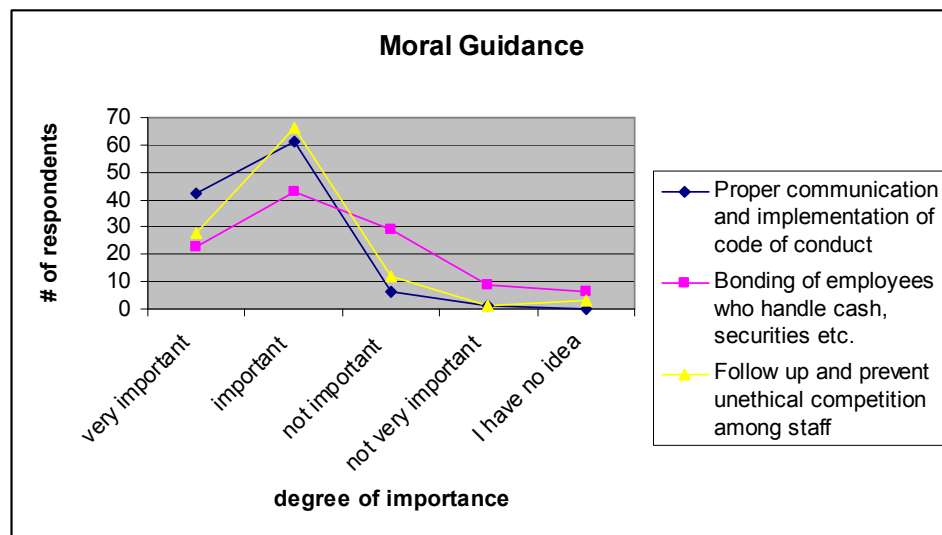


Figure 4.12. Responses to MG

4.2.2.10. Summary of Control Environment Factors and Principles

Control environment principles are listed according to the ascending order of the means of the responses as follows:

Table 4.6. Ranking of Principles Based on Means of Responses

Code	Control Environment Principles	Min	Max	Mean	Std. Dev
Q3C	BD/AC: Conscientiousness (Objectivity and Independence)	1	3	1,22	0,46
Q2A	IT: Safeguarding of assets	1	2	1,31	0,46
Q5C	CPT: Knowledge of current laws by financial reporting managers	1	3	1,35	0,50
Q3B	BD/AC: An Audit Committee with adequate qualifications	1	3	1,38	0,51
Q4B	MPOS: Importance placed on internal control	1	3	1,43	0,52
Q5B	CPT: Competent internal auditor	1	3	1,44	0,52
Q6C	OS: Auditors' easy accessibility to personnel	1	3	1,48	0,57
Q7A	AAR: Appropriate segregation of duties	1	3	1,50	0,52
Q7B	AAR: Specification of who is to execute and who is to approve duties	1	3	1,52	0,52
Q5A	CPT: Personnel with adequate knowledge and skills	1	3	1,52	0,52
Q2B	IT: No motivational factors to circumvent/override internal control	1	4	1,53	0,65
Q4C	MPOS: No predominance of one manager	1	3	1,53	0,66
Q6A	OS: Appropriate duties and reporting areas	1	3	1,55	0,52
Q7C	AAR: Proper specification of employees authorized to exert an initiative	1	3	1,56	0,58
Q8C	HRPP: Regular and objective performance evaluation	1	3	1,59	0,53
Q1B	IEV: Ethical values based on concerns of different related parties	1	3	1,61	0,59
Q6B	OS: A compatible organizational structure	1	4	1,61	0,58
Q1C	IEV: Existence of code of conduct	1	4	1,62	0,69
Q2C	IT: Adherence to financial reporting manuals	1	4	1,63	0,62
Q9A	MG: Communication and implementation of code of conduct	1	4	1,69	0,62
Q8B	HRPP: Proper review of the backgrounds and CV's of new employees	1	3	1,72	0,49
Q4A	MPOS: Appropriate risk taking	1	4	1,73	0,57
Q8D	HRPP: No frequent turnover in executive positions	1	3	1,74	0,62
Q1A	IEV: No short term performance bonuses	1	3	1,74	0,60
Q3A	BD/AC: Members from outside	1	4	1,85	0,80
Q9C	MG: Prevention of unethical competition	1	4	1,87	0,63
Q8A	HRPP: Vacation and job rotations based on laws	1	4	1,87	0,63
Q9B	MG: Bonding agreements with cash handling staff	1	4	2,23	0,89

In the table above, 1 denotes “very important”, 2 denotes “important”, 3 denotes “not very important” and 4 denotes “not important”. Therefore, a relatively low mean would indicate that the control environment principle is relatively important. For example, according to the table, participants marked “board of directors/audit committee: objective and independent” principle as “very important”, “important” and “not very important” because the minimum marking is shown as 1 and maximum as 3. Sorting control environment principles according to means of responses given have shown that auditors value “BD/AC: conscientiousness (objectivity and independence)” as the most important principle out of all the other principles. As the question was to indicate how important the principles are in order to establish an efficient control environment, a conscientious board of directors / audit committee in executing their duties and responsibilities can be stated as the key principle of an efficient control environment. The second key principle is the safeguarding of assets and records as a part of the “IT”. Also, it is noteworthy to state that all respondents have marked this as either “very important” or “important”. This is the only principle which received only two types of responses and that nobody has marked as “not very important” or “not important”. However, the mean of this principle is 0.09 less than the mean of the first principle (i.e. 1.22 vs. 1.31), given equal standard deviations. The means of other principles which follow each other in a descending order do not have such a high percentage of a difference. This is another supporting factor for stating that a conscientious board of directors / audit committee in executing their duties and responsibilities is definitely the most important principle. The third key principle, according to the results of the questionnaire, was “CPT: knowledge of current laws and regulations by financial reporting managers and adherence to such laws and regulations”. In the top five most important principles, BD/AC takes place as a second time as it ranks fourth as “an audit committee with adequate qualifications” received a mean response of 1.38. The fifth principle is from another control environment factor, MPOS. Respondents have valued “importance placed by the company management on the auditors’ previous detections and suggestions, and importance placed particularly on internal control” as the fifth key principle of an efficient control environment.

The figure below summarizes the top five principles assumed by the auditors as necessary to constitute an efficient control environment:

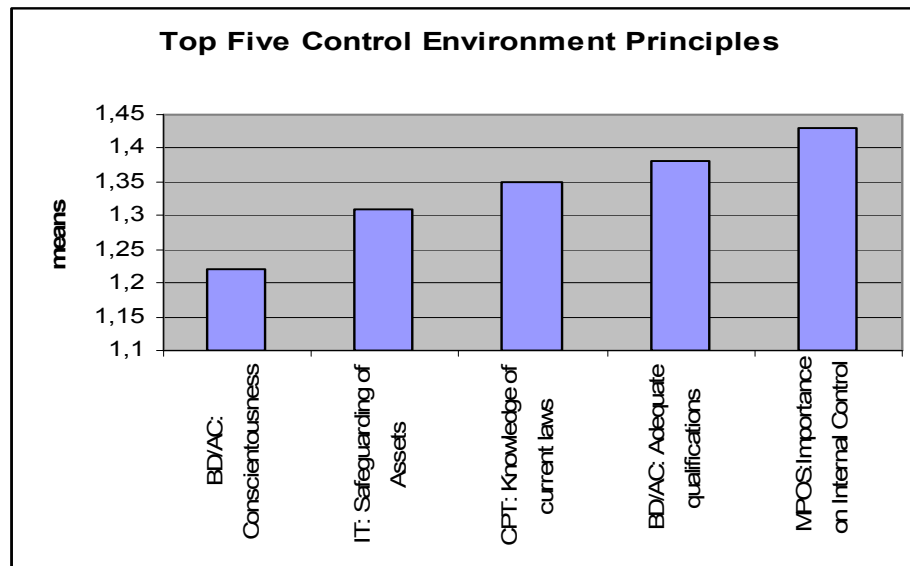


Figure 4.13. Top Five Control Environment Principles

In general, the principles never ranked as “not very important” constituted 32% of the total principles. The principal, which most respondents marked as “I have no idea” was “Moral Guidance: bonding of all employees who handle cash, securities through certain indemnities”. 6 out of 110 respondents stated that they had no idea on this principle, that is approximately 5% of the respondents. Also this principle has the largest standard deviation of 0.89, which shows that there was a large variance in terms of opinions on importance level of this principle. Moreover, “BD/AC: existence of members from outside in the board of directors and audit committee” had the second largest standard deviation. Opinions might have varied as the question included the existence of members from outside in both committees and that the respondents may have believed this principle as necessary only for one of the committees. Other principles revealed standard deviations, ranging

from 0.46 to 0.69, whereas; those two principles revealed standard deviations over 0.80. Hence, the biggest disagreement between the opinions of the auditors was for these two principles stated above. Yet, it must also be noted that the means of these two principles were also large, therefore, larger standard deviations based on larger means for these two principles compared to those of other principles were not unlikely in absolute terms.

Least five important principles included two principles from MG, one from HRPP, one from BD/AC and one from IEV. “Bonding of all employees who handle cash and other securities through certain indemnities” was the least important principle followed by “vacations and rotation of duties compatible with the company code of conduct and other regulations”, “follow up on the level of competition among the employees and prevention of unethical competition among them as much as possible”, “existence of members from outside in the board of directors and audit committee” and “no pressure on the managers to reach unrealistic performance goals, especially in the short run”.

The figure below summarizes the least five important control environment principles:

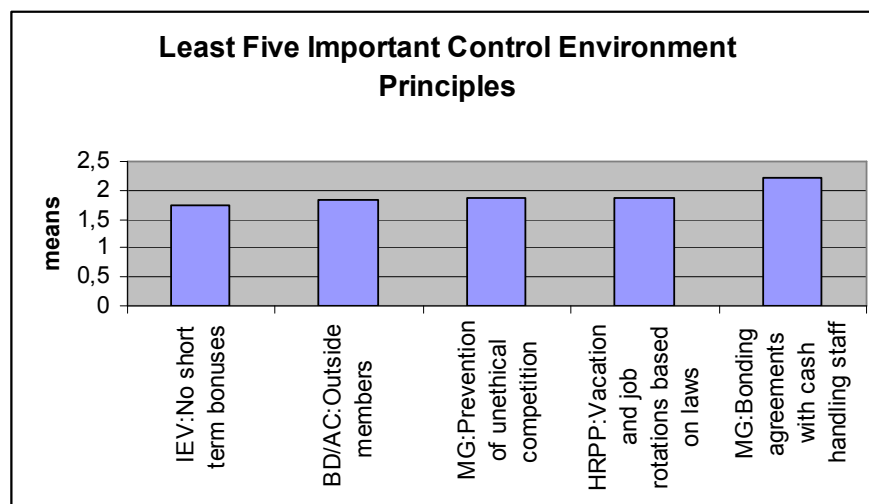


Figure 4.14. Least Five Important Control Environment Principles

Means of control environment factors revealed that out of the nine control environment factors, “CPT” with an average of the mean of 1.43 was the most important factor followed by “BD/AC” and “IT”. MG ranked as the least important factor to consider in order to establish an efficient control environment. The mean of all the principles listed on the questionnaire was 1.60 and only the means of three factors were well above this mean: “IEV”, “HRPP” and “MG”.

To sum up, the ranking of control environment principles, according to auditors’ opinions would be as follows. Next to each principle, the ranking of the similar (but not the same) principle in Haskins and Henarie (1985)’s study is provided in parantheses:

1. A conscientious board of directors / audit committee in executing their duties and responsibilities (ranks 20th in Haskins and Henarie)
2. Safeguarding of assets and records (ranks 4th in Haskins and Henarie)
3. Knowledge of current laws and regulations by financial reporting managers and adherence to such laws and regulations (ranks 9th in Haskins and Henarie)
4. An audit committee with adequate qualifications (ranks 37th in Haskins and Henarie)
5. Importance placed by the company management on the auditors’ previous detections and suggestions, and importance placed particularly on internal control (ranks 19th in Haskins and Henarie)
6. Competence of the internal auditors in detecting misstatements and proper reporting of such misstatements (ranks 8th in Haskins and Henarie)
7. Auditors’ easy accessibility to employees, executive management and board of directors / audit committee (ranks 28th in Haskins and Henarie)

8. Proper segregation of duties among the employees and specification of relationships among them in terms of reporting (ranks 2nd in Haskins and Henarie)
9. Proper specification of who to execute and to approve company transactions (ranks 1st in Haskins and Henarie)
10. Specification of knowledge and skills for each duty and existence of personnel possessing such knowledge and skills relevant for each duty (ranks 2nd in Haskins and Henarie)
11. No motivational factors for managers to circumvent or override existing internal control (ranks 6th in Haskins and Henarie)
12. No predominance of management by only one person (ranks 23rd in Haskins and Henarie)
13. Effective appropriation of reporting areas, responsibilities and duties to internal auditors (ranks 5th in Haskins and Henarie)
14. Proper specification of to what extent an employee is authorized to exert an initiative, when needed (no similar principle available in Haskins and Henarie)
15. Personnel evaluations to be conducted regularly and objectively and determining raises and promotions on such evaluations (ranks 43rd in Haskins and Henarie)
16. Existence of ethical values based the concerns of employees, suppliers, clients, community and competitors (no similar principle available in Haskins and Henarie)

17. An organizational structure compatible with the company goals and company size (ranks 44th in Haskins and Henarie)
18. Existence of code of conduct and the appropriateness of the code of conduct to company and community culture (no similar principle available in Haskins and Henarie)
19. Adherence to financial reporting manuals (ranks 18th in Haskins and Henarie)
20. Proper communication of code of conduct to the employees and effective implementation of the code of conduct (ranks 39th in Haskins and Henarie)
21. Proper review of the backgrounds and references of new employees and an efficient training for new employees (ranks 35th in Haskins and Henarie)
22. Appropriate risk taking in line with the company's abilities and capacity (ranks 12th in Haskins and Henarie)
23. No frequent turnover in the top, executive management positions (ranks 14th in Haskins and Henarie)
24. No pressure on the managers to reach unrealistic performance goals, especially in the short run (example: no bonuses tied to such unrealistic goals) (ranks 7th in Haskins and Henarie)
25. Existence of members from outside in the Board of Directors or Audit Committee (no similar principle available in Haskins and Henarie)
26. Follow up on the level of competition among the employees and prevention of unethical competition among them as much as possible (no similar principle available in Haskins and Henarie)

27. Vacations and rotation of duties compatible with the company code of conduct and other regulations (ranks 29th in Haskins and Henarie)
28. Bonding of all employees who handle cash, securities through certain indemnities (ranks 38th in Haskins and Henarie)

It shall not be surprising to find out that the conscientiousness (i.e. objectivity and independence) and competence related principles are the mostly valued principles. IIA Standards usually emphasize on objectivity and independence of the audit work as well competence of the internal auditors and the audit committee. In IIA Practice Advisory 1100-1, independence is explained as being able to carry out work free and objectively and establishment of independence is stated to permit to render impartial and unbiased judgments through organizational status and objectivity.²²³ Competence of internal auditors is explained in detail in IIA Practice Advisory 1210-1: “Internal auditors should possess the knowledge, skills, and other competencies needed to perform their individual responsibilities. The internal audit activity collectively should possess or obtain the knowledge, skills, and other competencies needed to perform its responsibilities”.²²⁴

I believe that also the approach of the management to the importance of internal audit (ranked 5th above) is very important. Apart from the management, all other employees in the organization should know that they are an integral part of the control environment. Therefore, the organization structure must be well established and well-functioning. A code of conduct must be available (ranked 18th above) and the management must make sure that it is implemented (ranked 20th above). Moreover, reaching targets is important but how targets are reached is at least as important and that is covered by the integrity and ethical values.

²²³ Türkiye İç Denetim Enstitüsü, “Uluslararası İç Denetim Standartları Mesleki Uygulama Çerçevesi (2007’de Değişikliklerle)”, Print Center, 2008, p.69.

²²⁴ The IIA, <http://www.theiia.org/guidance/standards-and-guidance/professional-practices-framework/standards/standards-resources/?C=819&i=2360> (26 November 2008).

4.2.2.11. Statistical Data on the Control Environment Factors

There are three principles under each control environment factor, except for HRPP, which is represented by four principles. The participants had to choose the level of importance for each of these 28 principles. Given the data for the level of importance for the principles, each respondent's reply to three principles under a factor (four principles under HRPP) was indexed under its relevant factor. The detail of the indexing process is provided in section 4.2.6.

Correlations between the independent variables (a total of nine control environment factors) were examined in the correlation matrix presented in Table 4.7.. The abbreviations used in the table were explained before in section 4.1.4.

The results have shown that Q9 and Q1 are highly correlated (0.99) and that is expected as moral guidance can be considered as a part of integrity and ethical values. In the COSO report, the main distinction between the two factors is the involvement of management on ethical values. That is, apart from the staff adhering to integrity and ethical values, the manager must also be the role model for the employees and make sure there are coercive penalties against those who violate integrity and ethical values. Other independent variables are slightly correlated, with correlation coefficients ranging from 0.13 to 0.42. It is expected that these variables are slightly correlated as they are stated as the factors that make up the control environment. In the COSO report (please see section 1.5. for further details), the co-existence of these nine factors (independent variables) constitutes the control environment.

Table 4.7. Correlations between Independent Variables

Correlation									
t-Statistic									
Probability	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Q1	1								

Q2	0.391	1							
	4.421	-----							
	0.001	-----							
Q3	0.234	0.422	1						
	2.496	4.839	-----						
	0.505	0.0002	-----						
Q4	0.251	0.324	0.193	1					
	2.699	3.560	2.039	-----					
	0.290	0.019	1	-----					
Q5	0.285	0.297	0.241	0.198	1				
	3.088	3.231	2.583	2.103	-----				
	0.092	0.059	0.401	1	-----				
Q6	0.217	0.282	0.195	0.353	0.423	1			
	2.306	3.056	2.062	3.916	4.849	-----			
	0.829	0.102	1	0.006	0.002	-----			
Q7	0.338	0.405	0.263	0.135	0.403	0.312	1		
	3.734	4.599	2.828	1.414	4.570	3.412	-----		
	0.011	0.0004	0.201	1	0.0005	0.033	-----		
Q8	0.289	0.223	0.012	0.325	0.272	0.366	0.206	1	
	3.138	2.374	0.119	3.565	2.937	4.080	2.191	-----	
	0.079	0.697	1	0.019	0.146	0.003	1	-----	
Q9	0.999	0.389	0.233	0.249	0.283	0.218	0.337	0.289	1
	6.048	4.390	2.488	2.679	3.069	2.317	3.716	3.140	-----
	0.001	0.001	0.518	0.307	0.098	0.807	0.012	0.078	-----

The statistical data pertaining to independent variables Q1 through Q9 are provided below:

Table 4.8. Statistical Data on Independent Variables

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Mean	0.775	0.895	0.886	0.875	0.911	0.885	0.889	0.809	0.774
Median	0.8	0.933	0.93	0.87	0.933	0.867	0.867	0.8	0.8
Maximum	1	1	1	1	1	1	1	0.95	1
Minimum	0.27	0.467	0.53	0.47	0.667	0.467	0.533	0.4	0.267
Std. Dev.	0.147	0.109	0.112	0.109	0.082	0.101	0.096	0.088	0.147
Skewness	-0.524	-1.501	-1.061	-1.441	-0.562	-0.874	-0.787	-1.587	-0.523
Kurtosis	3.324	5.843	3.603	5.468	2.307	4.484	4.004	7.318	3.340
Jarque-Bera	5.524	78.353	22.316	65.991	7.999	24.087	15.981	131.627	5.540
Probability	0.063	0	0.001	0.001	0.018	0.001	0.0003	0	0.063
Sum	85.2	98.399	97.44	96.25	100.266	97.334	97.801	88.96	85.134
Sum Sq.Dev.	2.338	1.283	1.369	1.313	0.739	1.101	1.007	0.835	2.347
Observations	110	110	110	110	110	110	110	110	110

Negative values for the skewness indicate data that are skewed left. Relatively smaller skewness and a low Jarque-Bera coefficient is observed for Q1 and Q9 with significances higher than 0.05. The null hypothesis is that the data are from a normal distribution, so it is accepted only in Q1 and Q9 that the distribution is normal.

4.2.3. Frequency of Effective Control Environment in Audit Clients

The participants were asked what percentage of their clients exhibited an efficient control environment after having reviewed the control environment factors (Q10). The responses were as follows:

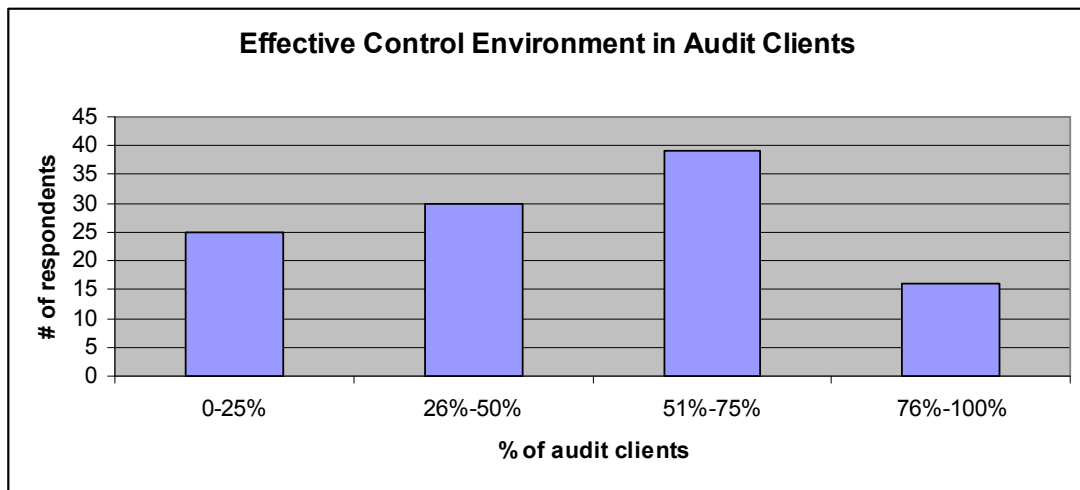


Figure 4.15. Effective Control Environment in Audit Clients

Referring to Figure 4.15. above, 39 out 110 respondents, which is around 35% of the auditors, have stated that they observed an effective control environment in more than 50% but less than 76% of their clients. Given the responses, it is hard to conclude that an effective control environment is in place, as only a cumulative 50% of auditors believed that around 0-50% of their clients had an effective control environment. Moreover, only 15% of the auditors observed an effective control environment in more than 75% of their clients.

4.2.4. Can Material Accounting Misstatements in General Be Prevented by An Effective Control Environment?

When the auditors were asked what percentage of accounting misstatements can be prevented by an effective control environment (Q31), the answers were as follows:

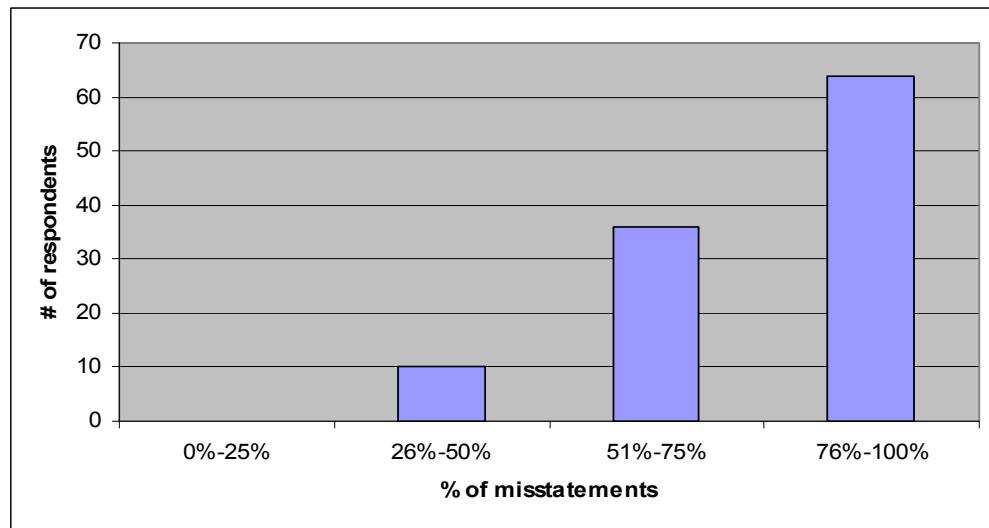


Figure 4.16. Percentage of Accounting Misstatements to Be Prevented by Control Environment

As the figure above indicates, most of the auditors believed that an effective control environment would lead to lesser accounting misstatements. None of the respondents marked the first choice, that is, 0%-25% and more than half of the respondents marked that 76% to 100% of the accounting misstatements could be prevented by an effective control environment.

The questionnaire also included a question on why certain accounting misstatements would not be avoided in spite of an effective control environment. Most of the auditors believed that “commands from top management, which cannot be rejected by the personnel” was the biggest impediment (19.4%) to the implementation of an effective control environment. The second biggest impediment (13.1%) was the intentional misstatements, of which benefits would outweigh the possible penalty.

In addition to the choices provided to the participants of the questionnaire, there was the open ended “other” choice, which received three responses, the most noteworthy of

which was that there was lack of consciousness that internal control could be achieved only through the collaboration of all the employees in an organization.

Apart from the top two replies mentioned in the previous paragraph, other replies to this question, which more than 10% of the respondents believed as an impediment to effective control environment, were as follows:

- Unlikelihood of detecting unregistered transactions by internal control (11.9%)
- Collusive activities by departments that control one another and hence, circumventing internal control (10.9%)
- Control environment being just one of the components of internal control (10.9%)
- Difficulty in pursuing new legal regulations (10.2%)

4.2.5. The Impact of Effective Control Environment on the Most Common Accounting Misstatements

Accounting misstatements were mentioned in detail in sections 2.3. and 4.1.4. of this research. The questionnaire asked the participants about their opinions on the avoidability of such accounting misstatements, the aggregate of which is assumed to be a good representation of the material accounting misstatements generally encountered by both internal and external auditors. As mentioned before, such misstatements were compiled based on personal experience in the audit sector as well as several interviews with experienced auditors and observation of audit reports.

4.2.5.1. Missing Documents

It has been observed that voided invoices and some other documents, including invoices and disbursement vouchers have been missing from the files and some of the existing ones have not been indexed in proper order (Q11). This would be a problem as the amounts shown on the financial statements would have been misstated unless all the supporting documents had been retained.

56.4% of the respondents believed that such a misstatement “could definitely be prevented” by an efficient control environment. Only 1.8% did not have an opinion and the rest of the respondents all stated that the efficient control environment “could prevent” this misstatement.

According to the auditors, the key to preventing this misstatement (Q12) would be to give importance on the “AAR” of the control environment, as 50% of the respondents marked this factor. This factor was followed by “CPT” and “IT”, which were marked by 14.8% and 10.2% of the respondents, respectively.

4.2.5.2. Personal Expenses

It has been observed that company expenses include personal expenses, such as owner’s fuel and travel expenses (Q13). This would lead to overstatement of costs and understatement of profits.

45.5% of the respondents believed that such a misstatement “could be prevented” and 33.6% believed that it “could definitely be prevented”. 15.5% of the respondents stated that personal expenses would still exist as a part of company expenses.

According to the auditors, the key to precluding this misstatement (Q14) would be to give importance to “IEV”. 31% of the respondents marked this factor; whereas, 23% stated that “MPOS” would prevent such a misstatement. “MG” and “AAR” were other factors, which were both marked by 11.5% of the respondents.

4.2.5.3. Capitalizing or Expensing

One of the most common material misstatements is about capitalizing or expensing of expenditures (Q15). It is often observed that purchases of fixed assets and relevant expenditures of such purchases or expenditures to increase the capacity or economic life of the existing fixed assets are not capitalized. When such expenditures are shown as expense, the expenses are overstated and the profits and assets are understated.

50% of the respondents believed that such a misstatement “could be prevented” and 44.5% believed that it “could definitely be prevented”. Only 4.5% of the respondents

stated that an effective control environment could not prevent misstatements with regard to capitalizing or expensing.

“CPT” was marked by more than half of the respondents as the key to preventing this misstatement (Q16). Another control environment factor in order to prevent such a misstatement was “AAR”, which received 15.8% of the marks. All other factors were marked by at least one participant; except for “HRPP”, which was the only factor not believed at all to play a role in preventing misstatements from capitalizing or expensing.

4.2.5.4. Thin Capitalization

It is often observed that due to shareholders or related parties of shareholders exceed three times the company’s owners’ equity (Q17). In this case, interest due and FX differences paid on the parts of the due from accounts that are more than three times the owner’s equity must be treated as disallowable expenses, according to Turkish Corporate Tax Law. On the other hand, different classifications of equity and debt among companies may confuse users with regard to the application of IAS 32 “Financial Instruments: Presentation” and IAS 39 “Financial Instruments: Recognition and Measurement”.

39.1% of the respondents believed that such a misstatement “could definitely be prevented” and a close percentage, 38.2% believed that it “could be prevented”. 19.1% of the respondents stated that thin capitalization would still exist in spite of an effective control environment. Around 3% had no idea.

Auditors’ choices of control environment factors to prevent this type of misstatements varied (Q18). The auditors marked “BD/AC” (33.3% response rate) of the respondents followed closely by “MPOS”, with a 27.4% response rate. “CPT” was another factor with a large response rate of 19%. All other factors received at most a 5% response rate except for “HRPP”, which none of the respondents marked as a factor to prevent such a misstatement.

4.2.5.5. Transfer Pricing

Another misstatement observation is concealing the distribution of earnings (Q19). A common method is to inflate costs through paying high commissions on

purchases of inventory and supplies from a related party, which raises suspicions on camouflage of earnings distribution to dominant shareholders, without the minority shareholders being aware of it. In such a case, the relevant disclosures shall be examined in order to see whether there has indeed been fraudulent financial reporting.

Around 88% of the respondents believed that there would not be such a misstatement if there was an effective control environment. That is, around 61% stated that it “could definitely be prevented”, whereas; around 27% stated it “could be prevented”. There was only one respondent who believed it “could definitely not be prevented”. Other respondents either had no idea (2.7%) or believed it “could not be prevented”.

As the control environment factors to prevent such misstatements (Q20); “BD/AC” was marked by 20.2% of the respondents followed closely by “MPOS” and “IEV”, each with a 17% response rate. All other factors received at most a 6% response rate except for “HRPP”, which none of the respondents believed to be a factor to prevent such a misstatement.

4.2.5.6. FX Rates

Another common misstatement is with regard to FX transactions (Q21). It is often the case that valuations of sales, expenses, bank transactions and other FX transactions are done by using various rates other than Central Bank bid rate and valuations of foreign cash are done by using various rates other than Central Bank effective bid rate. Such a misstatement could lead to either overstatement or understatement of financial statement items.

45.5% of the respondents believed that such a misstatement “could be prevented” and 33.6% believed that it “could definitely be prevented”. 15.5% of the respondents stated that personal expenses would still exist as a part of company expenses.

According to the auditors, “CPT” was the key to preventing such misstatements (Q22) just like it was the key to preventing capitalizing or expensing misstatements mentioned in section 4.2.5.3. More than half of the respondents marked “CPT”. “AAR”

was marked by 19.4% of the respondents. All other factors received a response rate of less than 10%.

4.2.5.7. Problems with IFRS/TFRS 12, 21, 27 and 39

Reportings in accordance with IFRS or TFRS (Q23) are often observed to include errors, especially in the valuation of derivatives covered under “IAS/TMS 39”, eliminations in consolidated financial reports covered under “IAS/TMS 27”, deferred tax computations covered under “IAS/TMS 12” and reporting in financial currency covered under “IAS/TMS 21”. Such errors lead to misstatement of figures on the financial statements.

Most of the respondents (55.5%) believed such misstatements “could be prevented”. In addition, another 37.3% stated they “could definitely be prevented”. Those who believed effective control environment would not prevent such misstatements were only 4 participants, that is, a 3.6% response rate. Another 3.6% had no idea.

“CPT” was by far the most popular response as the key to precluding problems with IFRS/TFRS 12, 21, 27 and 39 (Q24). 76.5% stated “CPT”, whereas; 12.2% believed “BD/AC” was the most important factor to prevent such misstatements. All other factors received response rates of maximum 4%, except for “HRPP” and “MG”, which were not marked by any of the respondents.

4.2.5.8. Misstatement of Cost of Sales

Formulation errors and confusion between general&administrative expenses and manufacturing overhead are observed often in the computation of cost of goods sold (Q25). Such errors give rise to understatement of general & administrative expenses and overstatement of cost of goods sold or vice versa.

Most of the respondents (52.7%) believed such misstatements “could be prevented”. In addition, another 43.6% stated they “could definitely be prevented”. Those who believed effective control environment would not prevent such misstatements constituted a trivial percentage of 2.7%. One respondent had no idea.

“CPT” was by far the most popular response as the key to precluding misstatements of cost of sales (Q26), with a response rate of around 70%, followed by “AAR”, with a response rate of around 11%. “IEV”, “MG” and “HRPP” were not marked by any of the respondents.

4.2.5.9. Problems with Consistency

The concept of consistency is often violated, particularly for depreciation rates and economic lives of fixed assets considered in the financial statements over the years (Q27). Different depreciation rates or economic lives are assumed for the same type of assets. Inconsistency leads to overstatement or understatement of the book values of the assets over the periods.

Participants’ responses to the avoidability of such misstatements included “Could be prevented” with a 50.9% response rate and “Could definitely be prevented”, with a 43.6% response rate. Only 2.7%, as in the case of Misstatement of Cost of Sales, replied by marking “Could not be prevented”.

As the factor to prevent such misstatements (Q28); “CPT” received a 63% response rate from the auditors. “MPOS” and “BD/AC” both received over 10% response rates. Apart from “AAR” with a response rate of 8%, none of the other factors were marked by more than 1 respondent each.

4.2.5.10. Problems with Matching

It is often observed that prepaid expenses and unearned revenues are not accounted for in compliance with the matching principle of accounting (Q29). Such types of misstatements occur in the form of either overstatements or understatements. In the case of prepaid expenses, such a misstatement leads to understatement of expenses and overstatement of assets and in the case of unearned revenues, it leads to understatement of revenues and overstatement of liabilities.

94.5% of the respondents replied by marking either “Could be definitely prevented” (50%) or “Could be prevented” (44.5%). Coincidentally, 2.7% of the

respondents marked the “Could not be prevented” choice; that is the same percentage of respondents for “Misstatement of Cost of Sales” and “Problems with Consistency”.

According to the results of the questionnaire, most of the participants believed that “CPT” was the key to precluding these misstatements (Q30). “BD/AC” received a 15.2% response rate and “AAR” received a response rate of 8.1%, and therefore, they were the second and third most popular answers. All other factors received minor response rates of maximum 5%. “MG” was the only factor which none of the respondents marked as a factor to prevent these misstatements.

4.2.5.11. Summary of the Support of Control Environment Factors on the Avoidability of Accounting Misstatements

There were ten questions on how accounting misstatements could be prevented through an effective control environment. Since there are 110 valid questionnaires, ten questions would have yielded a total of 1100 answers, if all of the respondents had replied. However, only those respondents who believed the accounting misstatement in question could be prevented by an effective control environment were expected to answer these questions.

Therefore, there were 979 valid answers, the distribution of which was as follows:

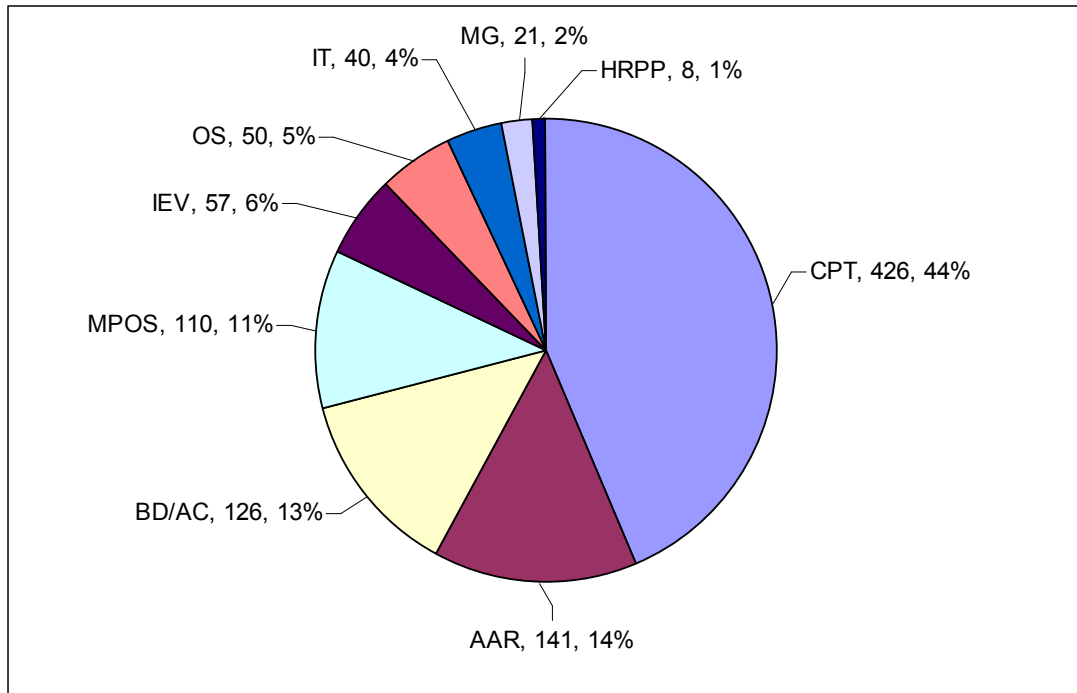


Figure 4.17. Control Environment Factors; # of Responses; % of Responses

Factors, which were believed by most of the respondents, to prevent each accounting misstatement, were as follows:

Table 4.9. Most Popular Factor to Avoid Accounting Misstatements

Accounting Misstatements	Control Environment Factor	Response rate
Missing documents	AAR	50%
Personal Expenses	IEV	31%
Capitalizing or Expensing	CPT	54.5%
Thin Capitalization	BD/AC	33.3%
Transfer Pricing	BD/AC	20.2%
FX Rates	CPT	52.4%
Problems with IFRS/TFRS	CPT	76.5%
Misstatement of Cost of Sales	CPT	69.5%
Problems with Consistency	CPT	63%
Problems with Matching	CPT	63.6%

As the table shows, only four control environment factors received the highest response rates. “CPT” was by far the most popular control environment factor believed to

prevent accounting misstatements. Remaining five factors, which are “IT”, “MPOS”, “OS”, “HRPP” and “MG”, received their highest response rates in the following accounting misstatements:

Table 4.10. Highest Response Rate for Control Environment Factors

Control Environment Factor	Accounting Misstatements	Response Rate	Popularity
MPOS	Thin Capitalization	27.4%	2nd
OS	Transfer Pricing	12.8%	4th
MG	Personal Expenses	11.5%	3rd or 4th*
IT	Transfer Pricing	10.6%	5th
HRPP	Missing documents	2.8%	7th

*Received the same response rate as “AAR”

The tables above reveal that at least four control environment factors have a high impact on the avoidability of accounting misstatements and the other five factors have a relatively less impact, according to the auditors.

4.2.6. Regression Analyses

In order to observe the relationship between each accounting misstatement and the control environment factors, binary logit regression analysis was used. Binary logit regression gives more sound results compared to linear regression due to the fact that the dependent variable, that is the avoidability of accounting misstatements is a binary variable; that is, either the accounting misstatement in question will be definitely prevented or not.

Logit regression assumes a logistic distribution as follows:

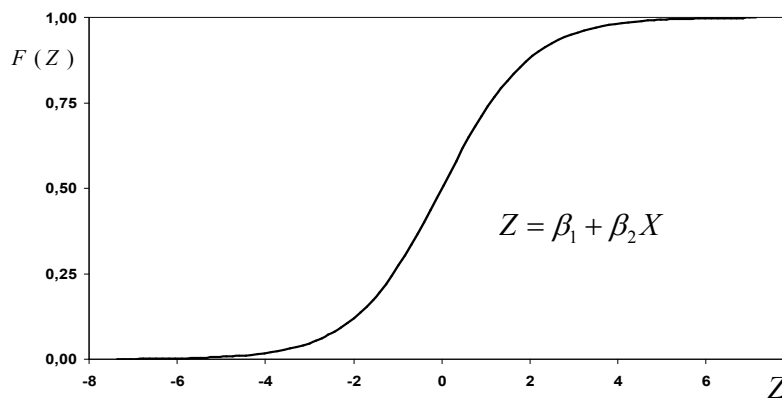
$$\text{Prob}(Y = 1|x) = \frac{e^{x'\beta}}{1 + e^{x'\beta}} = \Lambda(x'\beta) \quad (\Lambda \text{ stands for logistic cumulative distribution})$$

Probit and logit models are still the most common frameworks used in econometric applications.²²⁵ If the disturbances are normally distributed, then the probit model is

²²⁵ W.H. Greene, *Econometric Analysis*, Prentice Hall, 2002, Fifth Edition, p.667.

produced. Logistic disturbances produce the logit model instead.²²⁶ Logit models have to be applied when the dependent variable is assumed to take values of either 0 or 1.²²⁷ Logit model was also acknowledged to be a more reliable model to ascertain that the dependent variable takes values between 0 and 1 by İnal et al (2006)²²⁸.

In a logit analysis, probability is a sigmoid (S-shaped) function of Z , $F(Z)$, where Z is a function of the explanatory variables²²⁹ and the distribution function would resemble as follows:



The density function of the data would be similar to that of a normal distribution but more fat tailed when compared to standard normal. For a nonlinear model of this kind, maximum likelihood estimation is much superior to the use of the least squares principle for estimating the parameters.²³⁰

In this study, dependent variable is the accounting misstatement in question and the independent variables are the control environment factors. For each of the ten dependent variables, a separate binary logit regression analysis was conducted.

Dependent variables have been separated into two. Either the misstatement in question can be definitely (100%) prevented or there is at least a 1% chance that the

²²⁶ *ibid.*, p.670.

²²⁷ D.M. Gujarati, **Basic Econometrics**, McGrawHill, 1995, Third Edition, p.555.

²²⁸ M.E. İnal, D. Topuz, O. Uçan, "Doğrusal Olasılık ve Logit Modelleri ile Parametre Tahmini", *Sosyo Ekonomi*, Vol.2, 2006, p.125.

²²⁹ C. Dougherty, **Introduction to Econometrics**, Oxford University Press, Third Edition, 2006, Ch.11.

²³⁰ Dougherty, ch.11.

misstatement cannot be prevented by an efficient control environment. Therefore, the former includes the “could definitely be prevented” choices and the latter includes “could be prevented”, “could not be prevented”, “could definitely not be prevented” and “I have no idea” choices. As an example; Q11, which is “Voided invoices and some other documents, including invoices and disbursement vouchers are missing from the files and some of the existing ones are not indexed in proper order” was marked by 56.4% of the participants (or 62 participants) as “could definitely be prevented”. Therefore, 62 responses were coded as “1” and the rest was coded as “0”. The same procedure was applied for all ten dependent variables.

Each of the nine independent variables was indexed based on the individual responses for each principle. “Very important”, “important”, “not important”, “not very important” and “I have no idea” were coded as “1”, “0.80”, “0.40”, “0.20”, “0.60”, respectively. Therefore, approaching 1 would denote a higher level of importance. For example; let’s assume that a participant marked IEV independent variables as follows:

1. No pressure on the managers to reach unrealistic performance goals, especially in the short run (example: no bonuses tied to such unrealistic goals) – important
2. Existence of ethical values based the concerns of employees, suppliers, clients, community and competitors – important
3. Existence of code of conduct and the appropriateness of the code of conduct to company and community culture – very important

Then, the coding would be 0.87, which is the sum of 0.80 (important), 0.80 (important) and 1 (very important), divided by three.

4.2.6.1. Regression Analysis for Missing Documents

The table below shows the logit regression between the dependent variable (missing documents-Q11) with each of the independent variables:

Table 4.11. Binary Logit Regression for Missing Documents

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000000 < 0.0000100				
Dependent Variable Q11				
Usable Observations	110	Degrees of Freedom	100	
Log Likelihood	-69.13			
Average Likelihood	0.53			
Pseudo-R**2	0.11			
Log Likelihood(Base)	-75.35			
Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	-1.97	3.11	-0.63	0.53
2. Q1 (IEV)	2.17	1.60	1.36	0.17
3. Q2 (IT)	1.24	2.33	0.53	0.60
4. Q3 (BD/AC)	-0.11	2.06	-0.05	0.96
5. Q4 (MPOS)	-2.57	2.21	-1.16	0.24
6. Q5 (CPT)	-4.50	3.06	-1.47	0.14
7. Q6 (OS)	5.24	2.47	2.12	0.03**
8. Q7 (AAR)	3.79	2.61	1.45	0.15
9. Q8 (HRPP)	-2.60	2.83	-0.92	0.36
10. Q9 (MG)	0.00	0.00	0.00	0.00*

* Shows high correlation with Q1. Please see Table 4.7..

** Significant at 0.05 level.

Set at confidence interval of 95%, the results show that the avoidability of the misstatement resulting from the non-existence of voided and other invoices in the files would be possible by Q6, as this is the only significant independent variable. The results show that if organizational structure is given a higher importance, such misstatements are not likely to occur. When responses of the participants are taken into account, AAR (Q7) was chosen as the most effective factor to prevent such misstatements. However, according to regression results, the factor to focus on must be OS (Q6).

4.2.6.2. Regression Analysis for Personal Expenses

The table below shows the logit regression between the dependent variable (personal expenses – Q13) with each of the independent variables:

Table 4.12. Binary Logit Regression for Personal Expenses

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000001 < 0.0000100				
Dependent Variable Q13				
Usable Observations	110	Degrees of Freedom	100	
Log Likelihood	-63.74			
Average Likelihood	0.56			
Pseudo-R**2	0.12			
Log Likelihood(Base)	-70.25			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-6.74	3.40	-1.98 0.05**
2. Q1 (IEV)		0.64	1.77	0.36 0.72
3. Q2 (IT)		2.17	2.79	0.78 0.44
4. Q3 (BD/AC)		4.20	2.49	1.68 0.09***
5. Q4 (MPOS)		-0.38	2.24	-0.17 0.87
6. Q5 (CPT)		-3.40	3.23	-1.05 0.29
7. Q6 (OS)		5.94	2.88	2.06 0.04**
8. Q7 (AAR)		-1.49	2.88	-0.52 0.61
9. Q8 (HRPP)		-0.88	2.78	-0.32 0.75
10. Q9 (MG)		0.00	0.00	0.00 0.00*

* Shows high correlation with Q1. Please see Table 4.7..

** Significant at 0.05 level.

*** Significant at 0.10 level.

Set at confidence interval of 95%, the results show that only the constant and Q6 are significant. Therefore, organizational structure is likely to be the most effective control environment factor to prevent personal expenses being included in the company expenses. When responses of the participants are taken into account, IEV (Q1) was chosen as the most effective factor to prevent such misstatements. However, according to regression results, the factor to focus on must be OS (Q6).

4.2.6.3. Regression Analysis for Capitalizing or Expensing

The table below shows the logit regression between the dependent variable (capitalizing or expensing – Q15) with each of the independent variables:

Table 4.13. Binary Logit Regression for Capitalizing or Expensing

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000003 < 0.0000100				
Dependent Variable Q15				
Usable Observations	110	Degrees of Freedom	100	
Log Likelihood	-63.27			
Average Likelihood	0.56			
Pseudo-R**2	0.22			
Log Likelihood(Base)	-75.59			
Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	-9.42	3.53	-2.67	0.01**
2. Q1 (IEV)	2.78	1.73	1.61	0.11****
3. Q2 (IT)	-1.98	2.46	-0.80	0.42
4. Q3 (BD/AC)	5.09	2.46	2.07	0.04**
5. Q4 (MPOS)	-4.79	2.40	-1.99	0.05**
6. Q5 (CPT)	-0.76	3.20	-0.24	0.81
7. Q6 (OS)	5.14	2.65	1.94	0.05**
8. Q7 (AAR)	5.57	2.97	1.88	0.06***
9. Q8 (HRPP)	-0.50	2.92	-0.17	0.87
10. Q9 (MG)	0.00	0.00	0.00	0.00*

* Shows high correlation with Q1. Please see Table 4.7..

** Significant at 0.05 level.

*** Significant at 0.10 level.

**** Almost significant at 0.10 level.

Set at confidence interval of 95%, the results show that the constant, Q3, Q4 and Q6 are significant. Q4 has a negative coefficient, meaning that higher importance placed on management philosophy and operating style would not be likely to prevent the capitalizing or expensing problems. However, when the Board of Directors or Audit Committee (Q3) and Organizational Structure (Q6) are given high importance, such a misstatement is not likely to occur. AAR (Q7) could also be considered as likely to prevent such misstatements, if accepted at 0.10 level.

When responses of the participants are taken into account, CPT (Q5) followed by AAR (Q7) was chosen as the most effective factor to prevent such misstatements. However, according to regression results, the factors to focus on must be BD/AC (Q3), MPOS (Q4) and OS (Q6).

4.2.6.4. Regression Analysis for Thin Capitalization

The table below shows the logit regression between the dependent variable (thin capitalization – Q17) with each of the independent variables:

Table 4.14. Binary Logit Regression for Thin Capitalization

Binary Logit - Estimation by Newton-Raphson					
Convergence in 5 Iterations. Final criterion was 0.0000000 < 0.0000100					
Dependent Variable Q17					
Usable Observations	110	Degrees of Freedom	100		
Log Likelihood	-68.23				
Average Likelihood	0.54				
Pseudo-R**2	0.09				
Log Likelihood(Base)	-73.61				
Variable		Coeff	Std Error	T-Stat	Signif
1. Constant		-6.04	3.20	-1.89	0.06**
2. Q1 (IEV)		1.69	1.66	1.01	0.31
3. Q2 (IT)		2.99	2.65	1.13	0.26
4. Q3 (BD/AC)		2.82	2.23	1.26	0.21
5. Q4 (MPOS)		-2.63	2.13	-1.24	0.22
6. Q5 (CPT)		-2.33	3.07	-0.76	0.45
7. Q6 (OS)		3.07	2.54	1.21	0.23
8. Q7 (AAR)		-0.36	2.68	-0.14	0.89
9. Q8 (HRPP)		1.34	2.73	0.49	0.62
10. Q9 (MG)		0.00	0.00	0.00	0.00*

* Shows high correlation with Q1. Please see Table 4.7..

** Significant at 0.10 level.

Set at confidence interval of 95%, the results show that none of the independent variables are significant. This shows that thin capitalization is not one of those accounting misstatements that the control environment factors are likely to prevent. There are several reasons why the control environment would not prevent accounting misstatements from occurring. Auditors' views were listed in section 4.2.4. of this study. Thin capitalization

occurs usually stemming from the commands of the management and when the management prefers thin capitalization, all that the staff has to do is to obey such commands without hesitation, especially in small to medium sized companies where professionalism is relatively low.

When responses of the participants are taken into account, CPT (Q5) followed by AAR (Q7) was chosen as the most effective factor to prevent such misstatements. However, according to regression results, none of the control environment factors would help prevent misstatements due to thin capitalization.

4.2.6.5. Regression Analysis for Transfer Pricing

The table below shows the logit regression between the dependent variable (transfer pricing – Q19) with each of the independent variables:

Table 4.15. Binary Logit Regression for Transfer Pricing

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000018 < 0.0000100				
Dependent Variable Q19				
Usable Observations	110	Degrees of Freedom	100	
Log Likelihood	-59.33			
Average Likelihood	0.58	Log Likelihood(Base)	-64.45	
Pseudo-R**2	0.09			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-6.37	3.60	-1.77 0.08**
2. Q1 (IEV)		2.00	1.90	1.05 0.29
3. Q2 (IT)		2.36	3.02	0.78 0.44
4. Q3 (BD/AC)		2.94	2.58	1.14 0.25
5. Q4 (MPOS)		-2.78	2.24	-1.24 0.21
6. Q5 (CPT)		-0.74	3.40	-0.22 0.83
7. Q6 (OS)		4.64	2.95	1.57 0.12
8. Q7 (AAR)		-0.28	3.02	-0.09 0.93
9. Q8 (HRPP)		-2.18	2.84	-0.77 0.44
10. Q9 (MG)		0.00	0.00	0.00 0.00*

* Shows high correlation with Q1. Please see Table 4.7..

** Significant at 0.10 level.

Set at confidence interval of 95%, the results show that none of the independent variables are significant. This shows that transfer pricing is not one of those accounting misstatements that the control environment factors would prevent. There are several

reasons why the control environment would not prevent accounting misstatements from occurring and auditors' views were listed in section 4.2.4. of this study. Transfer pricing is usually achieved by inflating the costs where the profits of purchases go to the biggest shareholders without other minor shareholders being aware of it. Probably when the supplier is chosen by the management, the staff has no choice but to buy from that supplier.

When responses of the participants are taken into account, OS (Q6) followed by IT (Q2) was chosen as the most effective factor to prevent such misstatements. However, according to regression results, none of the control environment factors would help prevent misstatements due to transfer pricing.

4.2.6.6. Regression Analysis for FX Rates

The table below shows the logit regression between the dependent variable (FX rates – Q21) with each of the independent variables:

Table 4.16. Binary Logit Regression for FX Rates

Binary Logit - Estimation by Newton-Raphson					
Convergence in 5 Iterations. Final criterion was 0.0000000 < 0.0000100					
Dependent Variable Q21					
Usable Observations		110	Degrees of Freedom		100
Log Likelihood		-70.07			
Average Likelihood		0.53	Log Likelihood(Base)		-75.79
Pseudo-R**2		0.10			
Variable		Coeff	Std Error	T-Stat	Signif
1.	Constant	-6.94	3.19	-2.17	0.03**
2.	Q1 (IEV)	0.25	1.57	0.16	0.87
3.	Q2 (IT)	0.66	2.30	0.29	0.78
4.	Q3 (BD/AC)	3.09	2.09	1.47	0.14
5.	Q4 (MPOS)	0.91	2.06	0.44	0.66
6.	Q5 (CPT)	-2.97	2.99	-0.99	0.32
7.	Q6 (OS)	1.89	2.39	0.79	0.43
8.	Q7 (AAR)	4.96	2.71	1.83	0.07***
9.	Q8 (HRPP)	-0.70	2.61	-0.27	0.79
10.	Q9 (MG)	0.00	0.00	0.00	0.00*

* Shows high correlation with Q1. Please see Table 4.7..

** Significant at 0.05 level.

*** Significant at 0.10 level.

Set at confidence interval of 95%, the results show that none of the independent variables are significant. The reason can be that control environment is just the first component of an internal control and that rather the third component, which is control activities, is effective in precluding such misstatements. Examples to control activities are approvals, verifications and end of period reconciliations.

If 10% level is accepted, Q7 would be significant. That is, AAR can be considered as likely to prevent such a misstatement.

Based on responses of the participants, CPT (Q5) followed by AAR (Q7) were chosen as the most effective factors to prevent such misstatements. However, according to regression results, none of the control environment factors would help prevent misstatements due to FX rates, except for AAR (Q7), which could be accepted at 0.10 level.

4.2.6.7. Regression Analysis for Problems with IFRS/TFRS 12, 21, 27 and 39

The table below shows the logit regression between the dependent variable (Problems with IFRS/TFRS 12, 21, 27 and 39 – Q23) with each of the independent variables:

Table 4.17. Binary Logit Regression for IFRS/TFRS 12, 21, 27 and 39

Binary Logit - Estimation by Newton-Raphson					
Convergence in 5 Iterations. Final criterion was 0.0000000 < 0.0000100					
Dependent Variable Q23					
Usable Observations		110	Degrees of Freedom		100
Log Likelihood		-68.43	Log Likelihood(Base)		-72.64
Average Likelihood		0.54			
Pseudo-R**2		0.07			
Variable		Coeff	Std Error	T-Stat	Signif
1.	Constant	-5.81	3.22	-1.80	0.07**
2.	Q1 (IEV)	-1.46	1.63	-0.90	0.37
3.	Q2 (IT)	2.34	2.53	0.93	0.35
4.	Q3 (BD/AC)	1.40	2.18	0.64	0.52
5.	Q4 (MPOS)	-2.15	2.12	-1.01	0.31
6.	Q5 (CPT)	-2.17	3.04	-0.71	0.48
7.	Q6 (OS)	2.00	2.48	0.81	0.42
8.	Q7 (AAR)	4.42	2.76	1.59	0.11***
9.	Q8 (HRPP)	1.47	2.76	0.53	0.59
10.	Q9 (MG)	0.00	0.00	0.00	0.00*

* Shows high correlation with Q1. Please see Table 4.7..

** Significant at 0.10 level.

*** Almost significant at 0.10 level.

Set at confidence interval of 95%, the results show that none of the independent variables are significant. Most of the auditors interviewed before the questionnaire was sent believed that the companies were reluctant to bring qualified personnel to take care of advanced accounting issues as they spend thousands of dollars on an audit and they would like to see auditors work. The results are also in line with this belief and that such misstatements will still have to be corrected by the auditors.

When responses of the participants are taken into account, CPT (Q5) followed by AAR (Q7) was chosen as the most effective factor to prevent such misstatements.

However, according to regression results, none of the control environment factors (except for AAR (Q7) which could almost be accepted at 0.10 level) would help prevent misstatements due to advanced accounting adjustments, such as IFRS/TFRS 12, 21, 27 and 39.

4.2.6.8. Regression Analysis for Misstatement of Cost of Sales

The table below shows the logit regression between the dependent variable (misstatement of cost of sales – Q25) with each of the independent variables:

Table 4.18. Binary Logit Regression for Misstatement of Cost of Sales

Binary Logit - Estimation by Newton-Raphson					
Convergence in 4 Iterations. Final criterion was 0.0000014 < 0.0000100					
Dependent Variable Q25					
Usable Observations		110	Degrees of Freedom		100
Log Likelihood		-72.98	Log Likelihood(Base)		-75.35
Average Likelihood		0.52			
Pseudo-R**2		0.04			
Variable			Coeff	Std Error	T-Stat Signif
1.	Constant		-4.99	3.02	-1.65 0.09**
2.	Q1 (IEV)		1.19	1.56	0.77 0.44
3.	Q2 (IT)		-1.72	2.28	-0.76 0.45
4.	Q3 (BD/AC)		0.85	2.01	0.42 0.67
5.	Q4 (MPOS)		-0.16	2.05	-0.08 0.94
6.	Q5 (CPT)		1.19	2.87	0.42 0.68
7.	Q6 (OS)		-0.34	2.37	-0.15 0.88
8.	Q7 (AAR)		2.18	2.47	0.88 0.38
9.	Q8 (HRPP)		2.48	2.68	0.93 0.35
10.	Q9 (MG)		0.00	0.00	0.00 0.00*

* Shows high correlation with Q1. Please see Table 4.7..

** Significant at 0.10 level.

Set at confidence interval of 95%, the results show that none of the independent variables are significant. The reason may be either the commands from the top management which the staff cannot object to or that sometimes it is better to show such expenditures under cost of sales rather than operating expenses or vice versa (i.e.. intentional misstatements, of which benefits would outweigh the possible penalty).

Collusive activities by departments can be also a reason why the control environment would not be effective for such a misstatement.

When responses of the participants are taken into account, CPT (Q5) followed by AAR (Q7) was chosen as the most effective factor to prevent such misstatements. However, according to regression results, none of the control environment factors would help prevent misstatements due to cost of sales.

4.2.6.9. Regression Analysis for Problems with Consistency

The table below shows the logit regression between the dependent variable (problems with consistency – Q27) with each of the independent variables:

Table 4.19. Binary Logit Regression for Problems with Consistency

Binary Logit - Estimation by Newton-Raphson					
Convergence in 5 Iterations. Final criterion was 0.0000000 < 0.0000100					
Dependent Variable Q27					
Usable Observations	110	Degrees of Freedom	100		
Log Likelihood	-68.33	Log Likelihood(Base)	-75.35		
Average Likelihood	0.54	Pseudo-R**2	0.13		
Variable		Coeff	Std Error	T-Stat	Signif
1. Constant		-6.86	3.19	-2.15	0.03**
2. Q1 (IEV)		0.16	1.62	0.09	0.92
3. Q2 (IT)		1.53	2.43	0.63	0.53
4. Q3 (BD/AC)		2.13	2.19	0.97	0.33
5. Q4 (MPOS)		-0.45	2.10	-0.22	0.83
6. Q5 (CPT)		-4.97	3.14	-1.58	0.11***
7. Q6 (OS)		5.71	2.59	2.21	0.03**
8. Q7 (AAR)		4.19	2.75	1.52	0.13
9. Q8 (HRPP)		-0.83	2.67	-0.31	0.76
10. Q9 (MG)		0.00	0.00	0.00	0.00*

* Shows high correlation with Q1. Please see Table 4.7..

** Significant at 0.05 level.

*** Almost significant at 0.10 level.

Set at confidence interval of 95%, the results show that the constant and Q6 are significant. Once again, Organizational Structure (Q6) seems to be the key to precluding a misstatement, which means that when OS is given high importance, such a misstatement is not likely to occur.

When responses of the participants are taken into account, CPT (Q5) followed by BD/AC (Q3) was chosen as the most effective factor to prevent such misstatements. However, according to regression results, the factor to focus on must be OS (Q6). In addition, CPT (Q5) could almost be considered as likely to prevent such misstatements, if accepted at 0.10 level.

4.2.6.10. Regression Analysis for Problems with Matching

The table below shows the logit regression between the dependent variable (problems with matching – Q29) with each of the independent variables:

Table 4.20. Binary Logit Regression for Problems with Matching

Binary Logit - Estimation by Newton-Raphson					
Convergence in 5 Iterations. Final criterion was 0.0000000 < 0.0000100					
Dependent Variable Q29					
Usable Observations	110	Degrees of Freedom	100		
Log Likelihood	-67.97				
Average Likelihood	0.54				
Pseudo-R**2	0.14				
Log Likelihood(Base)	-75.59				
Variable		Coeff	Std Error	T-Stat	Signif
1.	Constant	-6.34	3.19	-1.98	0.05**
2.	Q1 (IEV)	2.28	1.65	1.38	0.17
3.	Q2 (IT)	2.61	2.51	1.04	0.29
4.	Q3 (BD/AC)	2.59	2.20	1.18	0.24
5.	Q4 (MPOS)	-4.45	2.25	-1.97	0.05**
6.	Q5 (CPT)	-1.67	3.06	-0.55	0.58
7.	Q6 (OS)	4.70	2.59	1.81	0.07***
8.	Q7 (AAR)	-0.05	2.66	-0.02	0.99
9.	Q8 (HRPP)	1.22	2.69	0.45	0.65
10.	Q9 (MG)	0.00	0.00	0.00	0.00*

* Shows high correlation with Q1. Please see Table 4.7..

** Significant at 0.05 level.

*** Significant at 0.10 level.

Set at confidence interval of 95%, the results show that the constant and Q4 are significant. This shows that when MPOS (Q4) is given less importance, such a misstatement is not likely to occur. This result may signify management intervention or

override, which are among the limitations of internal control. Set at confidence interval of 90%, Q6 (OS) could be considered as a deterrent to such a misstatement, that is, the more importance placed on the OS, the more likely accounting misstatement from matching could be prevented.

When responses of the participants are taken into account, CPT (Q5) followed by BD/AC (Q3) was chosen as the most effective factor to prevent such misstatements. However, according to regression results, the factor to focus on primarily must be MPOS (Q4) and OS (Q6) if accepted at 0.10 level.

4.2.6.11. Regression Analysis Revised for Correlated Variables

Correlation matrix in section 4.2.2.11. showed that Q1 (IEV) and Q9 (MG) were correlated. Therefore, another two regression analyses were performed; first one excluding Q1 and the second one excluding Q9. It has been observed that the results were similar. The analyses are provided in Appendix 5 and Appendix 6.

4.2.7. Comparison of Regression Results with Survey Results

It has been observed that the factors stated by the auditors to the question of which control environment factor would prevent the accounting misstatement in question are not consistent with the factors found as a result of the regression analyses. The summary of analyses is as follows:

Table 4.21. Comparison of Regression Results with Survey Results

Code	Accounting Misstatements	Regression Results	Coefficient(s)	Survey Results
Q11	Missing Documents	OS	5.24	AAR
Q13	Personal Expenses	OS	5.94	IEV
Q15	Capitalizing or Expensing	BD/AC, MPOS, OS	5.09, -4.79, 5.14	CPT
Q17	Thin Capitalization	none	none	BD/AC
Q19	Transfer Pricing	none	none	BD/AC
Q21	FX Rates	none	none	CPT
Q23	Problems with IFRS/TFRS	none	none	CPT
Q25	Misstatement of Cost of Sales	none	none	CPT
Q27	Problems with Consistency	OS	5.71	CPT
Q29	Problems with Matching	MPOS	-4.45	CPT

As the table above shows, when regression analyses are considered, Organizational Structure is significant in four (five, if accepted at 0.10 level) of the ten accounting misstatements and Board of Directors/Audit Committee is significant in one (two if accepted at 0.10 level) accounting misstatement. Assignment of Authority and Responsibility could be also considered as significant for two of the accounting misstatements, if accepted at 0.10 level. Management Philosophy and Operating Style is also significant at 0.05 level in two accounting misstatements but with a negative coefficient.

The idea behind this logit regression analysis was to show the importance of which control environment factor would move us towards absolute prevention of the accounting misstatement in question. Therefore, a negative coefficient would mean that the lesser the importance given, the more likely the accounting misstatement in question will be avoided and a positive coefficient would mean that the more the importance given, the more likely the accounting misstatement in question will be avoided.

When the survey results are taken into account, according to the auditors, “competence” was the factor which was believed to prevent six of the accounting misstatements.

In addition, according to the auditors, Board of Directors / Audit Committee was believed to prevent two of the accounting misstatements; whereas, Integrity and Ethical Values and Assignment of Authority and Responsibility each was believed to prevent one misstatement.

Organizational structure, which was significant according to the regression results in questions 11, 13, 15 and 27, was believed (according to the questionnaire results) to prevent the accounting misstatement in question by only 9.3% (ranks 4th), 4.6% (ranks 6th), 3% (ranks 6th) and 1% (ranks 6th) of the respondents, respectively.

The reasons for the difference in results may stem from a number of elements. First of all, auditors have already stated that due to a number of reasons, no matter how efficient the control environment is, it would still not prevent all of the accounting misstatements. One of the most remarkable reasons is that when the management instructs

to do an entry in a certain way, often the accountants simply obey the instructions. Another reason is that sometimes the penalty to be received from an intentional misstatement is believed to outweigh the rewards of it and therefore, the control environment would be then deactivated or circumvented. Moreover, it has been stated throughout this study is that internal control has five components, which are control environment, risk assessment, control activities, information & communication and monitoring therefore, control environment itself would never be sufficient to prevent all accounting misstatements according to the COSO report.

4.3. LIMITATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

Since working papers of the audit firms are confidential, accounting misstatements had to be defined based on interviews with the auditors. However, a direct observation could yield different misstatements. On the other hand, given the time constraints, only three (or four) principles for each factor could be included in this survey, yet, the representation level of the factors could be increased by adding more principles. Moreover, population size had to be estimated as the audit firms did not want to disclose the number of their employees due to competitive reasons. Finally, control environment factors were based on the COSO report. Yet, the probability of the existence of other control environment factors can be considered.

The results have shown that only control environment itself is not sufficient to prevent accounting misstatements. Whether the inclusion of the other four components of internal control, which are risk assessment, control activities, information&communication and monitoring would be sufficient to prevent a material percentage of accounting misstatements can be part of a future research. Yet, the researchers must keep in mind and test the limitations of internal control cited in the COSO report, which are judgment, breakdown, management override, collusion and costs versus benefits.

5. CONCLUSION

This study has been inspired by the control environment concepts presented by Haskins and Henarie in 1985. Such concepts have been updated in this study according to the COSO Report published in 1994 as well as through semi-structured interviews with experienced auditors and accounting academics and new set of control environment principles were developed.

Control environment, as a primary component of internal control according to the COSO Report (1994), consists of nine factors. Such factors are integrity and ethical values, incentives and temptations, providing and communicating moral guidance, commitment to competence, board of directors or the audit committee, management's philosophy and operating style, organizational structure, assignment of authority and responsibility, and human resource policies and practices. In this study, firstly, major accounting misstatements were highlighted and secondly, the external auditor's view on the priority of control environment factors as well the avoidability of accounting misstatements by such factors were examined.

Auditors' choices signaled "competency" followed by "board of directors / audit committee" and "integrity and ethical values" as the key factors to prevent most of the common material misstatements. Ranking of control environment principles has shown that "a conscientious board of directors/audit committee", "safeguarding of assets and records" and "knowledge of and adherence to current laws and regulations by financial reporting managers" were the top three control environment principles for an efficient control environment.

However, regression tests have shown that "organizational structure" is the fundamental control environment factor at least for four of the major accounting misstatements, which are "missing documents", "personal expenses", "capitalizing or expensing" and "problems with consistency". Organizational structure highlights corporate governance, which has been main focus of many disciplines after the Asian crisis in 1997,

corporate scandals such as WorldCom and Enron in 2001 and finally, the global economic crisis in 2008. There is a trend from management to good governance and competitive environment also compels the organizations to change.

Regression tests have also shown that “board of directors/audit committee” was likely to prevent one misstatement, which is “misstatement from capitalizing or expensing”. Especially, “management philosophy and operating style” was found as not likely to be effective in preventing two accounting misstatements, which are “misstatement from matching” and “capitalizing or expensing”. Consequently, an efficient control environment including all the nine control environment factors was not likely to prevent majority of the accounting misstatements

These results have shown that, in line with the COSO report, only control environment itself cannot be sufficient to prevent accounting misstatements. The other four components of internal control, which are risk assessment, control activities, information&communication and monitoring shall also be considered.

The results of this study shall be useful for the companies when they would like to establish an efficient control environment and also when they would like to improve their existing control environment. The auditors’ opinions as well as the statistical data will support the companies’ decisions as to which control environment factors must be primarily focused on. The results shall also be useful for the auditors as analysis of the control environment factors defined in the COSO report as well as identification of misstatements and the likelihood of the presence of misstatements in an efficient control environment are important for designing and performing appropriate audit procedures and evaluating the results of these procedures. Finally, the study is aimed to pioneer further research on the concept of internal control.

APPENDICES

APPENDIX 1: ILLUSTRATIVE REPORT

Illustrative Report Expressing an Unqualified Opinion on Management's Assessment of the Effectiveness of Internal Control over Financial Reporting and an Unqualified Opinion on the Effectiveness of Internal Control over Financial Reporting Report of Independent Registered Public Accounting Firm:

[Introductory paragraph]

We have audited management's assessment, included in the accompanying [title of management's report], that W Company maintained effective internal control over financial reporting as of December 31, 20X3, based on [Identify control criteria, for example, "criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO)."]. Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting. Our responsibility is to express an opinion on management's assessment and an opinion on the effectiveness of the company's internal control over financial reporting based on our audit. [Scope paragraph]

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, evaluating management's assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

[Definition paragraph]

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of

financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements. [Inherent limitations paragraph] Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. [Opinion paragraph] In our opinion, management's assessment that W Company maintained effective internal control over financial reporting as of December 31, 20X3, is fairly stated, in all material respects, based on [Identify control criteria, for example, "criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO)."]. Also in our opinion, W Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 20X3, based on [Identify control criteria, for example, "criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO)."]. [Explanatory paragraph] We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the [identify financial statements] of Company and our report dated [date of report, which should be the same as the date of the report on the effectiveness of internal control over financial reporting] expressed [include nature of opinion].

[Signature] [City and State or Country] [Date]

APPENDIX 2: SAMPLE DETECTION REPORTS

Company #1 (maritime sector)	
Tax audit of October to December 2006 financial statements	
1.	Cash payment limit of TRY8 thousand allowed by TPL article 257 (repeat) and TPL article 320 has been violated through payment of TRY82,740 to a supplier.
2.	Collection receipts have not been indexed in proper order: No.101 is dated 29.12.2006 and no.102 is dated 28.12.2006
3.	FX valuations arising from FX differences of receivables and payables denominated in foreign currency were ignored
4.	Expenses incurred after establishment have been capitalized as pre-operating expenses ²³¹ and been subject to depreciation.
5.	FX transactions have been converted using the Central Bank's effective ask rate, whereas; they must have been converted at bid rate according to TPL article 280.
6.	Personnel advances given at the beginning of the period have not been credited as of the end of the period. This advance must have been cleared already as the person has resigned and considered as salary and been subject to income tax or alternatively, the advance must have been shown as disallowable expense ²³² through a minute signed by at least two signatories.
7.	Payable transferred through the bank to the supplier still exists in the books as payable.
8.	Amount of taxes on income from bank accounts shown on the ledgers does not reconcile amount on the bank reports.
9.	Some fuel receipts do not display the licence plate number of the vehicles.
10.	Around TRY 30 thousand shown under "other receivables" ²³³ has been booked as disallowable expense without an agreement letter from the debtor.
11.	Amounts under "Due to Personnel" ²³⁴ account have remained for the last 4-5 years without any movements. They must either be recorded as income or followed up for clearance.

²³¹ The line item is coded as "262" in the Uniform Chart of Accounts and named in Turkish as "Kuruluş ve Örgütlenme Giderleri".

²³² Expenses Not Admitted as Taxable under the Applicable Laws.

²³³ The line item is coded as "136" in the Uniform Chart of Accounts and named in Turkish as "Diğer Çeşitli Alacaklar".

²³⁴ The line item is coded as "335" in the Uniform Chart of Accounts and named in Turkish as "Personele Borçlar".

12.	Invoices have not been indexed in proper order. This is violation of TPL article 231/1.
13.	Voided invoices are missing from the files. Only copies are there.
14.	Certain invoices are missing from the files. They must either be found or else booked as income on the basis of the average of annual income during the year.
15.	Payment made to a lawyer can only be expensed when the lawyer issues a freelance job voucher. However, the company has prepared a disbursement voucher and booked as expense. In addition, certain signatures have been spotted missing on the vouchers.
16.	Certain telephone bills have been found missing in the files. Unless these bills are found (according to TPL227), such expenses must be considered as disallowable expense.
17.	Company has operations under headquarters as well as in other locations as "Visa Office", "Education Office" and "Fuel Oil Station", but only one Social Security Institute (SSI) register exists and that is under the title of headquarters. For each operation, a separate SSI register must be obtained.
Company #2 (transportation)	
Tax audit of May to September 2006 financial statements	
1.	131-"Due from Shareholders" and 331-"Due to Shareholders" accounts are used constantly by the Company. It would be healthier for such accounts to be netted against each other. In addition, even the net amounts are larger on the 131-"Due from Personnel" side and such amounts are material. In order for such account not to seem as transfer pricing, interest must be accrued and VAT computed.
2.	FX denominated receivables and payables under the 131-"Due from Shareholders" and 331-"Due to Shareholders" accounts must be subject to FX valuation.
3.	Expenses from 2005 capitalized and rebooked to 262-"Pre-Operating Expenses" in 2006 have been found not to be relevant to pre-operating expenses. The depreciation was allocated as if the expenses were incurred in 2006. Such depreciations must be treated as disallowable expense. Tax declared less than normal due to such capitalization for three years from 2006 on will be subject to interest to be paid to tax authorities. Over-declared amount in 2005 (because the expense was not booked) cannot be offset by another under-declared amount (expenses shown after 2006.).
4.	Figures on depreciation table do not tally with the figures on ledgers. Depreciation allocated at a rate more than that declared by the Finance Ministry must be treated as disallowable expense.
5.	136-"Other Receivables" balance comes from previous years and it must be subject to FX valuation.

6.	Central Bank effective ask rate has been used. All FX denominated purchases and sales must be booked using the bid rate (TPL article 280).
7.	Some of the invoices shown under 600-“Domestic Sales” were observed to state only the Euro amount. TPL article 215 enforces companies to show TRY equivalent on the invoices (showing only the exchange rate is not sufficient). This law is applicable for Domestic Sales only.
8.	Return on sales has been booked as debit to 600-“Domestic Sales”. However, it must have been booked to “Sales Returns” ²³⁵ account.
9.	Problems with 195-“Work Advance” accounts: a) Some sub-items show a credit balance. b) Includes advance given to non-employee. If the advance is of an order advance nature, then it must be booked to 159-“Advances Given to Suppliers”. c) The beginning balance has not yet been cleared.
10.	196-“Advance Given to Personnel” account has material balances. It must be subject to income tax (Income Tax Law article 94).
11.	335-“Due to Personnel” shows a balance remaining from 3-4 years back. Such debts must be paid.
12.	Invoices have not been indexed in proper order. This is violation of TPL article 231/1.
13.	Voided invoices and some other invoices are missing from the files. Only copies are there.
14.	120-“Customers” account includes non-trade related receivables.
15.	320-“Suppliers” account’s beginning balance from previous years has had no movements during the year.
16.	Disbursement vouchers have been observed to contain payments paid constantly to the same suppliers and some vouchers do not contain signatures.
17.	770-“General and Administrative Expenses” account includes consultancy fees paid to a Russian company. Company has issued a disbursement voucher net of 10% withholding tax. For such long term purchases, tax liability of the supplier in his own country must be documented.
18.	770-“General and Administrative Expenses” account includes an invoice from IRI World Congress with no details on the invoice. Plus, its VAT has not been subject to deduction.
19.	770-“General and Administrative Expenses” account includes a meal invoice for thirty people. There is no detail on the invoice.

²³⁵ The line item is coded as “610” in the Uniform Chart of Accounts and named in Turkish as “Satıştan İadeler”.

20.	Some fuel receipts do not display the licence plate number of the vehicles.
21.	It has been observed that 300-“Bank Loans” account includes credit card payments. Such payments must be included under 336-“Other Liabilities”
22.	Some telephone bills, which were shown as expense, are missing from the files.
23.	The generator’s installation cost has been charged as expense; whereas, it must have been added to the cost of the generator.
24.	Generator (fixed asset of the company) was sold and the proceeds were booked into 600-“Domestic Sales”. Since the company is not a generator manufacturer, the amount must be rebooked into 679-“Other Extraordinary Revenues and Gains”.
25.	Monthly service charges of the training centre have been charged as expense without any supporting documents. If no documents are presented, such expenses will be treated as disallowable expense.
26.	380-“Short Term Deferred Income” and 480-“Long Term Deferred Income” segregation was not correctly done.
27.	Fuel oil purchased for the vehicle that belongs to a member of the Executive Committee has been booked as expense.
Company #3 (tourism)	
Tax audit of January to December 2006 financial statements	
1.	Air conditioner, furniture and other fixed assets bought to the hotel were booked as “Special Cost” ²³⁶ . They must be rebooked to 255-“Furniture and Fixtures”.
2.	Maintenance expenses such as painting and wallpapers were booked into 264-“Special Cost”. They must be rebooked as operating expenses.
3.	Total cost of fixed assets on the depreciation tables do not tally with the cost on balance sheet. Plus, depreciation rates used do not conform to the rates declared by the Ministry of Finance.
4.	Amortization amounts of intangible assets were booked into “Accumulated Depreciation” ²³⁷ instead of “Accumulated Amortization” ²³⁸ .

²³⁶ The line item is coded as “264” in the Uniform Chart of Accounts and named in Turkish as “Özel Maliyetler”. In US accounting, it is widely known as leasehold improvements.

²³⁷ The line item is coded as “257” in the Uniform Chart of Accounts and named in Turkish as “Birikmiş Amortismanlar”.

²³⁸ The line item is coded as “268” in the Uniform Chart of Accounts and named in Turkish as “Birikmiş Amortismanlar”.

5.	Software was booked into “Machinery, Equipment and Installations” ²³⁹ instead of “Other Intangible Fixed Assets” ²⁴⁰ .
6.	B type liquid mutual funds were not subject to valuation. Plus, the withholding tax was not booked. According to TPL article 279, such funds must be valued at stock exchange value except when it is a fund comprising a portfolio with at least 51% of shares or funds established in Turkey.
Company #4 (publishing)	
Tax audit of January to March 2006 financial statements	
1.	Problems with 100-“Cash” include the following: Too much cash is retained. b) Salaries are paid out of cash, with no disbursement vouchers signed by the employee c) A check with an amount of TRY10,000 has been collected in cash (TPL article 257 enforces bank or other financial institution’s intermediary in transactions over TRY8,000) d) Cash payments over TRY8,000 were made.
2.	Reconciliations of amounts booked as bank accounts on the ledgers with the amounts on reconciliation letters from the banks showed that there were material differences. Differences must be corrected / explained.
3.	Some of the check transactions were not followed by check receipt-reimbursement vouchers.
4.	108-“Other Liquid Assets” includes credit card slips with a credit balance. In addition, for certain collections, company has not prepared any collection vouchers.
5.	Tax returns have not been paid to employees.
6.	Problems with 360-“Taxes and Funds Payables” account: Stamp tax accrual returns were booked into Income Tax and vice versa...Therefore, some sub accounts show debit balance.
7.	Problems with VAT declaration: Accrued amounts do not tally with the declared amounts
8.	Social Security premiums are paid under one name although the company has a headquarters and a manufacturing plant. For each operation, a separate SSI register must be obtained. In addition, new address of the company has not yet been reported to SSI.
9.	335-“Due to Personnel” shows a debit balance.

²³⁹ The line item is coded as “253” in the Uniform Chart of Accounts and named in Turkish as “Tesis, Makina ve Cihazlar”.

²⁴⁰ The line item is coded as “267” in the Uniform Chart of Accounts and named in Turkish as “Diğer Maddi Olmayan Duran Varlıklar”.

10.	Problems with 780-“Financial Expenses”: Some bank charges and interest expenses shown on the ledgers cannot be reconciled with the movements shown on the bank statements.
11.	Problems with 300-“Bank Loans”: a) Amounts shown under 300-“Bank Loans” account do not tally with the amounts on bank reconciliation letters. b) Vehicle loan obtained is for a vehicle that is not listed under 254-“Motor Vehicles”.
12.	Invoices have not been indexed in proper order. This is violation of TPL article 231/1. 2005-dated invoices have been booked in 2006 financial statements.
13.	Problems with fixed assets and depreciations: a) Amounts on ledgers do not tally with depreciation tables b) some depreciation rates used are wrong.
14.	Advances given to group companies must be subject to interest and VAT if on a continuous basis.
15.	770-“General and Administrative Expenses” account includes payments which must have been capitalized according to TPL article 313 (2006 limit is TRY520-any asset with a value over TRY520 must be capitalized)
16.	Loss on sale of business vehicle has been booked to “Other Expenses and Losses” ²⁴¹ . However, the correct booking is under “Other Extraordinary Expense and Losses” ²⁴² . In addition, notary-signed sales agreement is missing.
17.	Insurance policy of two vehicles (which are not booked under 254-“Vehicles) has been booked to 180-“Prepaid Expense for the Following Months”. However, at the end of the period, the portion of prepaid expense actually incurred has not been charged as expense.
18.	“Other Trade Receivables” ²⁴³ account shows a credit balance.
19.	135-“Due from Personnel” shows a credit balance.
20.	Tax on communication must be separated out of the phone bill and treated as disallowable expense.
21.	Vehicle maintenance expenses shown under 770 account do not belong to business vehicles.
22.	No stamp tax has been charged on lease agreement.

²⁴¹ The line item is coded as “659” in the Uniform Chart of Accounts and named in Turkish as “Faaliyetle İlgili Diğer Olağan Gider ve Zararlar”.

²⁴² The line item is coded as “689” in the Uniform Chart of Accounts and named in Turkish as “Diğer Olağandışı Gider ve Zararlar”.

²⁴³ The line item is coded as “127” in the Uniform Chart of Accounts and named in Turkish as “Diğer Ticari Alacaklar”.

23.	Consultancy Fees spent in order to open an English education centre outside Turkey were booked under 770 accounts. However, such expenses must be booked to 258-“Construction in Progress so that the expenses toward opening the centre can be accumulated here to be a part of the cost of the investment.
24.	320-“Suppliers” account was observed and it’s been found out that although the company has received services worth of TRY85,000, advances to suppliers were around TRY373,000.
25.	Payrolls were examined and it’s been observed that the highest gross salary is TRY531, which is the social security base (minimum) salary in 2005. The vice manager’s salary, being the same as the other employees, raises suspicions and may be evaluated as transfer pricing.
Company #5 (construction)	
Tax audit of January to February 2006 financial statements	
1.	Problems with depreciation allocations: a) Incorrect depreciation rates were used b) Formula is wrong, so, depreciation was incorrectly calculated for 253-“Machinery, Equipment and Installations”. c) Some vehicles were not depreciated based on partial depreciation.
2.	Problems with “Buildings” ²⁴⁴ : a) Company shareholder is residing in the villa owned by the company and he has not been given any invoice for the rent. b) One of the staff is residing in the flat owned by the company and he has not been given any invoice for the rent. Rental allowance shall be treated as remuneration and be subject to income tax c) Flat sold in 2005 was not written off from the balance sheet. d) Some of the flats owned by the company remain empty. e) Some stores sold in 2005 were not written off from the balance sheet.
3.	Maximum cash payment limit of TRY8 thousand allowed by TPL article 257 (repeat) and TPL article 320 has been violated.
4.	100-“Cash” account does not include sub account for cash in foreign currency although transactions in foreign currencies exist.
5.	Disbursement vouchers have no serial number.
6.	Certain invoices are missing from the files. Three different batches of invoices were used for “operating revenues”, “rental income” and “other income”. But, it’s been observed rental invoice was written on the “operating revenues” batch or operating revenue invoice on the “other income” batch etc.

²⁴⁴ The line item is coded as “252” in the Uniform Chart of Accounts and named in Turkish as “Binalar”.

7.	Although there is a receivable booked as “Due from Subsidiaries” ²⁴⁵ , the company’s ledgers do not contain any “Subsidiaries” ²⁴⁶ account.
8.	“Due from Participations” ²⁴⁷ account shows a balance however, the “Participations” ²⁴⁸ account does not show any balance.
9.	Company has included short term receivables under 232-“Due from Participations” ²⁴⁹ , plus, no sub-account was opened for receivables in FX currency. FX rate used was also wrong.
10.	Work advances were booked as 136-“Other Receivables”.
11.	Problems with 335-“Due to Personnel” account: Accruals for some of the salaries do not tally with the salaries paid.
12.	Problems with 431-“Due to Shareholders” ²⁵⁰ : a) Current liabilities were included in the account b)Some sub-accounts have debit balance c) Although payment of TRY 100 thousand to one shareholder has been journalized, bank statements showed only a payment of TRY 50 thousand. d) No disbursement voucher was issued for some of the cash payments. e) No sub-account was opened for FX transactions.
13.	Problems with 300-“Bank Loans” account included booking interest expense under 740-“Cost of Production of Services” instead of 780-“Financial Expenses” and failure to accrue interest payable at end of periods.
14.	“Leasing Payables” ²⁵¹ account shows a debit balance. In addition, interest on equipment obtained through leasing must be added to cost, whereas; the Company has booked interest as expense. Company has made payments on leasing based on payment table, using the current exchange rate and therefore, the amount paid did not match the amount on the invoice, where amounts in foreign currency were converted to TRY at a different FX rate.
15.	“Interest Payables of Deferred Lease Costs” account shows a debit balance.
16.	Examination of 320-“Suppliers” account showed that certain personal expenditures were booked under this account and end of period cash surplus was credited as if it was a payable to a supplier.

²⁴⁵ The line item is coded as “233” in the Uniform Chart of Accounts and named in Turkish as “Bağlı Ortaklıklardan Alacaklar”.

²⁴⁶ The line item is coded as “245” in the Uniform Chart of Accounts and named in Turkish as “Bağlı Ortaklıklar”.

²⁴⁷ The line item is coded as “232” in the Uniform Chart of Accounts and named in Turkish as “İştiraklardan Alacaklar”. This is an account with a long term nature.

²⁴⁸ The line item is coded as “242” in the Uniform Chart of Accounts and named in Turkish as “İştiraklar”. This is an account with a long term nature.

²⁴⁹ This account is listed under long term assets in the Uniform Chart of Accounts.

²⁵⁰ This is an account with a long term nature. The same account with the short term nature is coded 331.

²⁵¹ The line item is coded as “301” in the Uniform Chart of Accounts and named in Turkish as “Finansal Kiralama İşlemlerinden Borçlar”.

17.	Problems with 600-“Domestic Sales”: a) Sales of flats have been booked as income but the flats were not written off from the assets. b) Sales realized in 2005 were invoiced in 2006. c) Sales amount on the title deed do not tally with that on the invoice. d) The account includes income from subcontractor activities, which must be booked as 649-“Other Income and Profit from Operations”.
18.	Under “Export Sales” ²⁵² , some transactions were booked at an FX rate which is not the FX rate on the actual date of export sale.
19.	602-“Other Sales” account includes rental income from companies with which the company does not hold lease agreements and from shareholders at a very small rental amount. In addition, rental income received for 2 years must have been treated as unearned revenue rather than income.
20.	Gain on vehicle sold was booked to 649-“Other Income and Profit from Operations”, whereas; the correct account to book is 679-“Other Extraordinary Revenues and Gains”. The sale is not related to operations, therefore, under the Turkish accounting, the income is treated as extraordinary, which means the income is not related to operations.
21.	Depreciation of equipment used in common by various departments must be allocated based on number of days used, however, the company based it on the magnitude of expenses under each CIP.
22.	770-“General and Administrative Expenses” include tyre expenses of vehicles not registered as assets of the Company, prepaid consultancy and insurance fees, scholarship to a student (who has no contract with the company) which have been treated as disallowable expense, rental expenses to on a no-lease-agreement basis and expenses which cannot be traced on an original invoice (invoice missing).
23.	740-“Cost of Production of Services” account includes expenses of different constructions allocated to one construction, year 2005 direct labour reflected in 2006, year 2005 utilities expenses reflected in 2006 and invoices with amended dates from year 2005 to 2006. Also progress payments were made without calculating VAT.
24.	136-“Other Receivables” account shows non-operations related receivables and includes a bank loan received and transferred to a Group company.
25.	127-“Other Trade Receivables” account includes a balance of TRY 76 thousand which was given as loan to another company, from which, the company is expecting a share of profit upon completion of the project. However, there is no relevant agreement.
26.	336-“Other Liabilities” includes non-operations related payables.
27.	There are problems with reconciliations of income tax, VAT and stamp tax booked on the ledgers with the amounts on declarations.

²⁵² The line item is coded as “601” in the Uniform Chart of Accounts and named in Turkish as “Yurtdışı Satışlar”.

28.	Closing period vouchers were not issued. Only opening vouchers were issued.
Company #6 (port services)	
Tax audit of June to October 2007 financial statements	
1.	Rental of the parcel out to a maritime federation was determined to be TRY10. However, Income Tax Law article 73 prohibits such rentals lower than the benchmark value (emsal değeri). If the benchmark value cannot be determined, then for land and building, it is 5% of the tax value determined by Turkish Tax Law.
2.	120-“Customers” account shows a balance due August 2007. As of end of 2007, the balance has not yet been paid. Therefore, the company must follow a lawsuit and book the receivable as dubious.
3.	“Advances Received” account includes an advance from three years ago. The account must be cleared.
4.	Security personnel provided by a security company started working for the company at the beginning of August 2007, but they were registered by SSI on the 17 th of August. For the period between 1-17 August, the company is liable successively against any charges with the security company.
5.	Return on sales has been booked as debit to 600-“Domestic Sales”. However, it must have been booked to 610-“Sales Returns” account.
6.	254-“Vehicles” account does not include firstly the company car, which was obtained as a result of lease payments and secondly, the company car, which is fully depreciated. Even if the vehicle is fully depreciated, it must be shown at track value (“iz bedeli”), which is TRY1.
7.	Social security premium was paid out of an employee’s vacation pay. Vacation pays are not subject to social security premiums.
8.	Company has rebooked all its receivables that have not been cleared in the past 2 fiscal years as 136-“Other Receivables”. However, the company must get an average attorney fee from the lawyer and book such receivables as dubious if; receivables with an amount lower than the amount of attorney fees were followed up twice in writing and receivables higher than attorney fees are followed up in courts.
9.	Under 120-“Customers” and 320-“Suppliers” accounts, it was observed that there are many sub-accounts which have not had any movement lately.

Company #7 (textile)	
Tax audit of January to September 2007 financial statements	
1.	“Fixed Asset Advances Given” ²⁵³ included FX differences and valuation differences. However, Advances Given must be booked at registered value according to TPL article 283 and all such differences must be treated as disallowable expense.
2.	Construction of the plaza was booked under 258-“Construction in Progress”. However, the account does not include the sale of two sections of the plaza.
3.	Problem with 253-“Machinery, Equipment and Installations”: Although some of the equipments were sold, accumulated depreciations of such equipments were not debited and no gain/loss has been booked. In addition, inflation differences were not accounted for and therefore, excessive gains were booked.
4.	Company has not had its 2006 year books certified. GL must be certified by the end of January of the following year and inventory list until March 15 th of the following year. Otherwise, Company books cannot be used as proof for any potential lawsuits for/against the company.
5.	Company’s 100-“Cash” account shows transactions of over TRY8,000. Even though, sometimes, such transactions have been realized by receiving TRY4,000 on one day and TRY 4 thousand the other day from the same person, they are still prohibited by TPL article 213. Violation of this article would cause the company to pay a fine of 5% of the transaction amount.
6.	Some lease agreements do not include stamp tax.
7.	Income tax return of this year has been computed on percentages declared by the Ministry of Finance for taxes relating to previous year.
8.	Problems with 770-“General and Administrative Expenses”: a) The account includes expenses from the previous year. b) Fixed asset purchased for YTL4,800 has been booked as expense although it must have been capitalized. c) Account includes fuel oil expenses of a vehicle not registered as a company vehicle.
9.	No supporting document was found relating to the factoring expenses booked under 780-“Financial Expenses”.
10.	Amount of VAT declared on the VAT declaration report does not tally with the amount on company ledgers.

²⁵³ The line item is coded as “259” in the Uniform Chart of Accounts and named in Turkish as “Verilen Avanslar”. This is an account of a long term nature.

11.	Stated amounts of certain accounts (e.g. 656-“FX Losses”, 642-“Interest Income” etc) on Temporary Tax Declarations do not tally with the ledger amounts.
Company #8 (food)	
Tax audit of January to March 2007 financial statements	
1.	Problems with bookings of leasings: Company booked leased equipment as 255-“Furnitures and Fixtures”, whereas; the correct booking must have been as “Leasing Furnitures and Fixtures” ²⁵⁴ .
2.	Company has forgotten to perform valuations for the following leasing liability accounts: “Leasing Payables” ²⁵⁵ and “Interest Payables of Deferred Lease Contracts” ²⁵⁶ and “Deferred Lease Interest Payables” ²⁵⁷ .
3.	Company did not have its 2006 year books certified. GL must be certified by the end of January of next year and inventory list until March 15 th of next year. Otherwise, Company books cannot be used as proof for any potential lawsuits against the company.
4.	770-“General and Administrative Expenses” account shows that telephone bills dated December 31, 2006 were booked in year 2007 as a part of operating expenses. According to the accounting principle of matching, previous year’s expenses cannot be booked as operating expenses of the current year. Such expenses must be treated as disallowable expense.
5.	Daily supplies such as vegetables, chicken and meat were booked under inventory as “Trade Goods” ²⁵⁸ . Such supplies must be booked as 740-“Cost of Production of Services” during the accounting period and transferred to “Cost of Services Sold” ²⁵⁹ at the end of the period.
6.	Toll road charges have been fully booked as expense, however, Istanbul Revenue Department has stated that VAT can be deducted using internal percentage rate of return.
7.	VAT has been computed on taxi receipts. However, taxi operators are exempt from VAT.

²⁵⁴ The detection reports prepared in Turkish indicate the account name as “Leasing Demirbaşları”. No published sources were found to learn the exact translation of this account and therefore, as the author of this study, I had to do the translation. The account’s code is stated as 265 in the detection report.

²⁵⁵ Both short term and long term payables have the same account name: “Leasing Payables”. However, short term payable and long term payable are coded 301 and 401, respectively and named in Turkish as “Finansal Kiralama İşlemlerinden Borçlar”.

²⁵⁶ The line item is coded as “302” in the Uniform Chart of Accounts and named in Turkish as “Ertelenmiş Finansal Kiralama Borçlanma Maliyetleri”.

²⁵⁷ The line item is coded as “402” in the Uniform Chart of Accounts and named in Turkish as “Ertelenmiş Finansal Kiralama Borçlanma Maliyetleri”.

²⁵⁸ The line item is coded as “153” in the Uniform Chart of Accounts and named in Turkish as “Ticari Mallar”.

²⁵⁹ The line item is coded as “622” in the Uniform Chart of Accounts and named in Turkish as “Satılan Hizmet Maliyeti”.

8.	Inventory was stored in a rented warehouse. Company has booked rental expense for the payment. However, the rental must be added to the cost of the inventory. That is, payments must first be booked as 159-“Advances Given to Suppliers” and then transferred to 153-“Trade Goods”.
9.	Company books insurance damage compensation under 602-“Other Sales”. However, the correct entry must be 679-“Other Extraordinary Revenues and Gains”.
10.	Service charge given for the apartment currently occupied by the café operations of the Company was booked as 689-“Other Extraordinary Expenses and Losses”.
11.	Company owners have reflected personal purchases into company accounts.
12.	All costs related to importing of wine and cheese must be added to the cost of inventory. However, the company booked such expenditures as usually 689-“Other Extraordinary Expenses and Losses”.
13.	Price and discount difference to be received from a customer was booked as 602-“Other Sales”; whereas, the difference must have been booked as “Sales Discounts” ²⁶⁰ .
14.	Prepaid rent was booked as expense. It must be booked as 180-“Prepaid Expense for the Following Months.”
15.	Over the quota sales commissions granted by the headquarters were booked as 601-“Export Sales”. Such premiums or commissions must be booked as 602-“Other Sales”.
16.	Sales returns were booked by debiting 153-“Trade Goods”. 610-“Sales Returns” were not debited.
17.	Personal fuel oil expenses were booked as disallowable expense, however, their VAT’s were deducted. Such a tax misstatement must be corrected.
18.	B Type liquid mutual funds were sold and the withholding tax was booked as 770-“General and Administrative Expenses”. The correct entry is 193-“Prepaid Taxes and Funds”.
19.	Motor vehicles tax on business vehicles were booked as expense; whereas; it must have been treated as disallowable expense.
20.	TRY1,300 sent by bank transfer was redundantly booked as cash payment.
21.	Loss on sale of mutual fund was booked as 656-“Foreign Exchange Losses”; whereas, the correct entry must have been “Losses on Marketable Securities’ Sales”. ²⁶¹

²⁶⁰ The line item is coded as “611” in the Uniform Chart of Accounts and named in Turkish as “Satış İskontoları”.

²⁶¹ The line item is coded as “655” in the Uniform Chart of Accounts and named in Turkish as “Menkul Kıymet Satış Zararları”.

22.	VAT on plane ticket was not deducted.
23.	Prepaid advertising expenses were booked as operating expenses. However, matching principle allows booking of only current expenses and booking the rest as an asset, that is, prepaid expenses.
24.	Gain on sale of mutual fund was booked as 642-“Interest Income”; whereas, the correct entry must have been “Gains on Marketable Securities’ Sales” ²⁶² .
25.	“Cost of Trade Goods” ²⁶³ was booked before the sales were realized. This has led to the company showing less tax payable in 2006. 159-“Advances Given to Suppliers” must be used to accumulate costs.
26.	300-“Bank Loans” account contains credit card payments made by company personnel on behalf of the company. Such transactions must be booked as 336-“Other Liabilities”.
27.	Interest expense accruals were not done. Therefore, taxable income was inflated.
28.	320-“Suppliers” account includes payables denominated in Euro, which must be subject to FX valuation and the difference arising from this valuation must be booked as 656-“Foreign Exchange Losses”.
29.	642-“Interest Income” account includes net interests, whereas, gross amount of interests must be booked and the withholding tax must be booked as 193-“Prepaid Taxes and Funds”.
30.	Some of the interest incomes were not booked.
31.	Interest on bank loan on vehicle bought was booked as 780-“Financial Expenses”; whereas, TPL article 163 indicates that interest and FX differences on loans used for the financing of fixed assets must be added to the cost of the fixed assets during the period the fixed asset was bought. Interest and FX differences in the next accounting period can be voluntarily added to the cost or booked as expense.
32.	131-“Due from Shareholders” account bears material amounts. In order for such account not to seem as transfer pricing, interest must be accrued and VAT computed.
33.	It’s been observed that payments of principal and interest on bank loan were both booked by debiting 300-“Bank Loans”. The correct entry must have been to debit the 300-“Bank Loans” for the amount of the principal repaid and debit the fixed assets (during the accounting period the fixed asset was bought) or 780-“Financial Expenses” (after the accounting period the fixed asset was bought) for the interest expense.

²⁶² The line item is coded as “645” in the Uniform Chart of Accounts and named in Turkish as “Menkul Kıymet Satış Karları”.

²⁶³ The line item is coded as “621” in the Uniform Chart of Accounts and named in Turkish as “Satılan Ticari Malın Maliyeti”.

34.	Ledger amounts and tax declaration amounts do not reconcile for certain items, including income taxes and stamp taxes.
35.	100-“Cash” account and 103-“Cheques Given and Payment Orders” account show credit and debit balance, respectively.
36.	191-“Deductible VAT” was not offset at the end of the period. This is because the company books utilities expenses and alike after the VAT declaration is made, as such bills arrive usually in the next month. Such bills can be booked in the next month as long as they are not booked in the next year.

APPENDIX 3: QUESTIONNAIRE in ENGLISH

Please note that the questionnaire was designed on line at the following address:

<http://freeonlinesurveys.com/rendersurvey.asp?sid=ef5i4pgpm9soxvm452650>

The website address provided above will expire at October 15, 2008 and will only be available in paper form in this study.

Also please note that the questionnaire in Turkish was distributed to auditors in Turkey and that the questionnaire in English was only prepared in order to include it in this research.

CONTROL ENVIRONMENT AND ACCOUNTING MISSTATEMENTS

Dear participant,



This questionnaire has been designed for the doctoral research conducted under the advisory of Professor Prof. Dr. Necdet Şensoy by Faruk Z. Fırat., a current PhD student at Marmara University Social Sciences Institute. The questionnaire aims to receive the opinions of the auditors on which principles are the most important in order to have an efficient control environment and whether the accounting misstatements could be avoided given an efficient control environment.

The questionnaire does not require name and surname and all the information is held absolutely confidential.

Data will be evaluated as aggregate and will serve only to this particular scientific research.

The questionnaire is comprised of three sections. First section includes questions on control environment principles, second section asks the respondents their opinions on whether accounting misstatements could be prevented by an efficient control environment. Third section requires information, such as your experience in the sector and your education level.

Completion of the questionnaire will take approximately 8 minutes. Please read the instructions carefully before proceeding to the questions under each section. Please choose the answer that is most likely to suit you. For data collection and proper analysis of the results, please answer all relevant questions.

PART 1

Presented below are some “control environment principles”.

Control environment, as a component of internal control, includes integrity and ethical values, incentives and temptations, board of directors or audit committee, management’s philosophy and operating style, competence, HR policies and practices, organizational structure, assignment of authority & responsibility, HR policies and practices and providing and communicating moral guidance.

Based on your experience in the audit sector, please indicate how important the following principles are in order to establish an efficient control environment. If you do not have an opinion or you are not sure of your opinion, please choose “I do not have an opinion”.

1) INTEGRITY AND ETHICAL VALUES

	Very important	Important	Not important	Not very important	I do not have an opinion
A. No pressure on the managers to reach unrealistic performance goals, especially in the short run (example: no bonuses tied to such unrealistic goals)					
B. Existence of ethical values based the concerns of employees, suppliers, clients, community and competitors					
C. Existence of code of conduct and the appropriateness of the code of conduct to company and community culture.					

2) <u>INCENTIVES AND TEMPTATIONS</u>					
	Very important	Important	Not important	Not very important	I do not have an opinion
A. Safeguarding of assets and records					
B. No motivational factors for managers to circumvent or override existing internal control					
C. Adherence to financial reporting manuals					

3) <u>BOARD OF DIRECTORS / AUDIT COMMITTEE</u>					
	Very important	Important	Not important	Not very important	I do not have an opinion
A. Existence of members from outside in the Board of Directors / Audit Committee					
B. An Audit Committee with adequate qualifications					
C. A conscientious Board of Directors / Audit Committee in executing their duties and responsibilities					

4) <u>MANAGEMENT PHILOSOPHY AND OPERATING STYLE</u>					
	Very important	Important	Not important	Not very important	I do not have an opinion
A. Appropriate risk taking in line with the company's abilities and capacity					
B. Importance placed by the company management on the auditors' previous detections and suggestions, and importance placed particularly on internal control					
C. No predominance of management by only one person					

5) <u>COMPETENCE</u>					
	Very important	Important	Not important	Not very important	I do not have an opinion
A. Specification of knowledge and skills for each duty and existence of personnel possessing such knowledge and skills relevant for each duty					
B. Competence of the internal auditors in detecting misstatements and proper reporting of such misstatements					
C. Knowledge of current laws and regulations by financial reporting managers and adherence to such laws and regulations					

6) <u>ORGANIZATIONAL STRUCTURE</u>					
	Very important	Important	Not important	Not very important	I do not have an opinion
A. Effective appropriation of reporting areas, responsibilities and duties to internal auditors					
B. An organizational structure compatible with the company goals and company size					
C. Auditors' easy accessibility to employees, executive management and board of directors / audit committee					

7) <u>ASSIGNMENT OF AUTHORITY AND RESPONSIBILITY</u>					
	Very important	Important	Not important	Not very important	I do not have an opinion
A. Proper segregation of duties among the employees and specification of relationships among them in terms of reporting					
B. Proper specification of who to execute and to approve company transactions					
C. Proper specification of employees authorized to exert an initiative					

8) <u>HUMAN RESOURCE POLICIES AND PRACTICES</u>					
	Very important	Important	Not important	Not very important	I do not have an opinion
A. Vacations and rotation of duties compatible with the company code of conduct and other regulations					
B. Proper review of the backgrounds and references of new employees and an efficient training for new employees					
C. Personnel evaluations to be conducted regularly and objectively and determining raises and promotions on such evaluations					
D. No frequent turnover in the top, executive management positions					

9) <u>MORAL GUIDANCE</u>					
	Very important	Important	Not important	Not very important	I do not have an opinion
A. Proper communication of code of conduct to the employees and effective implementation of the code of conduct					
B. Bonding of all employees who handle cash and other securities through certain indemnities					
C. Follow up on the level of competition among the employees and prevention of unethical competition among them as much as possible					

10) Considering the control environment principles above, in what percentage of your clients would you state that “I observed an efficient control environment”?	
0%-25%	
26%-50%	
51%-75%	
76%-100%	

PART II

Presented below are some questions regarding the ten most common accounting misstatements encountered during the audits. Such misstatements were determined upon our observations and feedback from various auditors

Please indicate whether the misstatements below could be prevented if there was an efficient control environment, by ticking the most appropriate choice for you.

For those questions for which you answer “Could be definitely prevented” or “could be prevented”, indicate by which particular control environment factor, such a misstatement would be prevented.

11) Voided invoices and some other documents, including invoices and disbursement vouchers are missing from the files and some of the existing ones are not indexed in proper order.	
“Could be definitely prevented” if there was an efficient control environment.	
“Could be prevented” if there was an efficient control environment.	
“Could not be prevented” if there was an efficient control environment.	
“Could definitely not be prevented” if there was an efficient control environment.	
I do not have an opinion.	

12) If your answer to the question above (question 11) was " <u>Could be definitely prevented</u> " or " <u>Could be prevented</u> ", please indicate by which control environment factor, such a misstatement could be prevented.	
Integrity and ethical values	
Incentives and temptations	
Moral Guidance	
Competence	
Board of Directors or Audit Committee	
Management's philosophy and operating style	
Organizational structure	
Assignment of authority responsibility	
HR policies and practices	

13) Company expenses include personal expenses (for example, owner's fuel and travel expenses).	
"Could be definitely prevented" if there was an efficient control environment.	
"Could be prevented" if there was an efficient control environment.	
"Could not be prevented" if there was an efficient control environment.	
"Could definitely not be prevented" if there was an efficient control environment.	
I do not have an opinion.	

14) If your answer to the question above (question 13) was " <u>Could be definitely prevented</u> " or " <u>Could be prevented</u> ", please indicate by which control environment factor, such a misstatement could be prevented.	
Integrity and ethical values	
Incentives and temptations	
Moral Guidance	
Competence	
Board of Directors or Audit Committee	
Management's philosophy and operating style	
Organizational structure	
Assignment of authority & responsibility	
HR policies and practices	

15) Purchases of fixed assets and relevant expenditures of such purchases or expenditures to increase the capacity or economic life of the existing fixed assets were not capitalized.	
"Could be definitely prevented" if there was an efficient control environment.	
"Could be prevented" if there was an efficient control environment.	
"Could not be prevented" if there was an efficient control environment.	
"Could definitely not be prevented" if there was an efficient control environment.	
I do not have an opinion.	

16) If your answer to the question above (question 15) was " <u>Could be definitely prevented</u> " or " <u>Could be prevented</u> ", please indicate by which control environment factor, such a misstatement could be prevented	
Integrity and ethical values	
Incentives and temptations	
Moral Guidance	
Competence	
Board of Directors or Audit Committee	
Management's philosophy and operating style	
Organizational structure	
Assignment of authority & responsibility	
HR policies and practices	

17) Due to shareholders or related parties of shareholders exceed three times the company's owners' equity.	
"Could be definitely prevented" if there was an efficient control environment.	
"Could be prevented" if there was an efficient control environment.	
"Could not be prevented" if there was an efficient control environment.	
"Could definitely not be prevented" if there was an efficient control environment.	
I do not have an opinion.	

18) If your answer to the question above (question 17) was " <u>Could be definitely prevented</u> " or " <u>Could be prevented</u> ", please indicate by which control environment factor, such a misstatement could be prevented.	
Integrity and ethical values	
Incentives and temptations	
Moral Guidance	
Competence	
Board of Directors or Audit Committee	
Management's philosophy and operating style	
Organizational structure	
Assignment of authority & responsibility	
HR policies and practices	

19) It has been observed that costs were inflated through high commissions from purchases and supplies from outside. (High likelihood of transfer pricing).	
"Could be definitely prevented" if there was an efficient control environment.	
"Could be prevented" if there was an efficient control environment.	
"Could not be prevented" if there was an efficient control environment.	
"Could definitely not be prevented" if there was an efficient control environment.	
I do not have an opinion.	

20) If your answer to the question above (question 19) was " <u>Could be definitely prevented</u> " or " <u>Could be prevented</u> ", please indicate by which control environment factor, such a misstatement could be prevented	
Integrity and ethical values	
Incentives and temptations	
Moral Guidance	
Competence	
Board of Directors or Audit Committee	
Management's philosophy and operating style	
Organizational structure	
Assignment of authority & responsibility	
HR policies and practices	

21) FX valuations of foreign cash and those of sales, expenses, banks and other FX transactions were done by using various rates other than Central Bank bid rate and FX valuations of foreign cash were done by using various rates other than Central Bank effective bid rate.	
"Could be definitely prevented" if there was an efficient control environment.	
"Could be prevented" if there was an efficient control environment.	
"Could not be prevented" if there was an efficient control environment.	
"Could definitely not be prevented" if there was an efficient control environment.	
I do not have an opinion.	

22) If your answer to the question above (question 21) was " <u>Could be definitely prevented</u> " or " <u>Could be prevented</u> ", please indicate by which control environment factor, such a misstatement could be prevented	
Integrity and ethical values	
Incentives and temptations	
Moral Guidance	
Competence	
Board of Directors or Audit Committee	
Management's philosophy and operating style	
Organizational structure	
Assignment of authority & responsibility	
HR policies and practices	

23) Reportings in accordance with IFRS or TFRS include errors, especially in the valuation of derivatives (IAS/TMS 39), eliminations in consolidated financial reports (IAS/TMS 27), deferred tax computations (IAS/TMS 12) and reporting in financial currency (IAS/TMS 21).	
"Could be definitely prevented" if there was an efficient control environment.	
"Could be prevented" if there was an efficient control environment.	
"Could not be prevented" if there was an efficient control environment.	
"Could definitely not be prevented" if there was an efficient control environment.	
I do not have an opinion.	

24) If your answer to the question above (question 23) was " <u>Could be definitely prevented</u> " or " <u>Could be prevented</u> ", please indicate by which control environment factor, such a misstatement could be prevented	
Integrity and ethical values	
Incentives and temptations	
Moral Guidance	
Competence	
Board of Directors or Audit Committee	
Management's philosophy and operating style	
Organizational structure	
Assignment of authority & responsibility	
HR policies and practices	

25) Formulation errors and confusion between general&administrative expenses and manufacturing overhead have been observed in the computation of cost of goods sold.	
"Could be definitely prevented" if there was an efficient control environment.	
"Could be prevented" if there was an efficient control environment.	
"Could not be prevented" if there was an efficient control environment.	
"Could definitely not be prevented" if there was an efficient control environment.	
I do not have an opinion.	

26) If your answer to the question above (question 25) was " <u>Could be definitely prevented</u> " or " <u>Could be prevented</u> ", please indicate by which control environment factor, such a misstatement could be prevented	
Integrity and ethical values	
Incentives and temptations	
Moral Guidance	
Competence	
Board of Directors or Audit Committee	
Management's philosophy and operating style	
Organizational structure	
Assignment of authority & responsibility	
HR policies and practices	

27) Inconsistency among depreciation rates and economic lives of fixed assets was observed over the periods.	
"Could be definitely prevented" if there was an efficient control environment.	
"Could be prevented" if there was an efficient control environment.	
"Could not be prevented" if there was an efficient control environment.	
"Could definitely not be prevented" if there was an efficient control environment.	
I do not have an opinion.	

28) If your answer to the question above (question 27) was " <u>Could be definitely prevented</u> " or " <u>Could be prevented</u> ", please indicate by which control environment factor, such a misstatement could be prevented	
Integrity and ethical values	
Incentives and temptations	
Moral Guidance	
Competence	
Board of Directors or Audit Committee	
Management's philosophy and operating style	
Organizational structure	
Assignment of authority & responsibility	
HR policies and practices	

29) Prepaid expenses and unearned revenues were not accounted for in compliance with the matching principle of accounting.	
"Could be definitely prevented" if there was an efficient control environment.	
"Could be prevented" if there was an efficient control environment.	
"Could not be prevented" if there was an efficient control environment.	
"Could definitely not be prevented" if there was an efficient control environment.	
I do not have an opinion.	

30) If your answer to the question above (question 29) was " <u>Could be definitely prevented</u> " or " <u>Could be prevented</u> ", please indicate by which control environment factor, such a misstatement could be prevented	
Integrity and ethical values	
Incentives and temptations	
Moral Guidance	
Competence	
Board of Directors or Audit Committee	
Management's philosophy and operating style	
Organizational structure	
Assignment of authority & responsibility	
HR policies and practices	

31) In general, what percentage of accounting misstatements could be prevented if there was an efficient control environment?	
0%-25%	
26%-50%	
51%-75%	
76%-100%	
32) Why, do you think, could some accounting misstatements not be prevented if there was an efficient control environment? (you can tick more than one choice)	
Difficulty in pursuing new legal regulations	
Unlikelihood of detecting unregistered transactions by internal control	
Collusive activities by departments that control one another and hence, circumventing internal control	
That internal control can never be as independent as external control (e.g. external audit)	
High costs of establishing internal control for certain items	

Need to use initiative at certain times	
Benefits from an intentional misstatement outweighing the possible penalty from the same misstatement, in certain cases	
Commands from top management, which cannot be rejected by the personnel	
Control environment being just one of the components of internal control	
Other (Please specify):	

PART III

Last part includes questions about the participant. Questions marked with an asterisk on the left side must be answered, whereas; questions without an asterisk are optional.

All your answers will be kept confidential and no personal information such as name and surname would be used in the report.

33) Level of education?	
High school	
Vocational high school	
Bachelor's degree	
Master's degree	
PhD	

34) Your experience in the sector? (in years)

35) The company you work for?*

36) Your position at work?	
Auditor	
Experienced Auditor	
Audit Manager	
Partner	
Other (Please specify):	

37) Do you hold any license in accounting?	
SM license	
SMMM license	
YMM license	
No, I don't	
Other(for example CPA, CIA) (Please specify):	

38) Did you attend any specific course on internal control or any general course that included internal control?	
Yes	No

39) Please indicate your email if you would like to receive the results of this questionnaire*.

APPENDIX 4: QUESTIONNAIRE in TURKISH

Please note that the questionnaire in Turkish was distributed to auditors in Turkey and that the questionnaire in English was only prepared in order to include it in this research written in English.

KONTROL ÇEVRESİ VE MUHASEBE HATALARI

Sayın Katılımcı,

Bu anket Marmara Üniversitesi Sosyal Bilimler Enstitüsü, İngilizce Muhasebe Finansman doktora programı öğrencisi Faruk Ziya Fırat tarafından, Prof. Dr. Necdet Şensoy danışmanlığında yürütülmekte olan doktora tezi araştırması için tasarlanmıştır. Anket, iç kontrolün bileşenlerinden biri olan kontrol çevresinin etkin olabilmesi için hangi ilkelere önem verilmesi gerektiğini ve etkin bir kontrol çevresi oluşturulduğunda muhasebe hatalarının ne denli önlenebileceği konusunda denetçilerin görüşünü almayı hedeflemektedir.



Ankette ad, soyad sorulmamakta ve bilgilerin tümü kesinlikle gizli tutulmaktadır.

Toplanan veriler yalnızca söz konusu bilimsel araştırmaya hizmet edecek şekilde, toplu olarak değerlendirilecektir.

Anket üç bölümden oluşmaktadır: İlk bölümde kontrol çevresi ilkeleri ile ilgili sorular, ikinci bölümde muhasebe hatalarının etkin bir kontrol çevresi ile önlenip önlemeyeceğine dair görüşlerinizin istendiği sorular yer almaktadır. Üçüncü bölümde sektördeki deneyiminiz, eğitim durumu ve benzeri bilgiler istenmektedir.

Anketi tamamlamanız yaklaşık 8 dakikanızı alacaktır. Lütfen soruları cevaplamadan önce her bölüme ilişkin açıklamaları dikkatlice okuyunuz. Her soruya yanıt verirken kendi fikrinizi en iyi yansıtan seçeneği işaretleyiniz. Verilerin doğru toplanması ve yapılacak istatistiki analizlerin anlamlı çıkması açısından ankette ilgili hiçbir sorunun boş bırakılmamasını önemle rica ederim.

I. BÖLÜM

Aşağıda, bazı "kontrol çevresi ilkeleri" verilmiştir.

İç kontrolün ilk ve temel bileşeni olan "kontrol çevresi", etik değerlere bağlılık, teşvikler ve ayartıcılar, yönetim kurulu / denetim komitesi, yönetimin felsefesi ve işletme tarzı, yetkinlik, örgütsel yapı, yetkilerin ve sorumlulukların tayini, insan kaynakları politikaları ve uygulamaları ve ahlaki rehberlik olmak üzere 9 etmenden oluşmaktadır.

Denetim sektöründeki deneyimlerinize dayanarak, yukarıdaki 9 etmen bağlamında; aşağıda belirtilen ilkelerin etkin bir kontrol çevresi için ne kadar önemli olduğunu seçeneklerden birini işaretleyerek belirtiniz. İlgili ilke hakkında bir fikriniz yoksa ya da görüşünüzden emin değilseniz, "Bir fikrim yok" seçeneğini işaretleyebilirsiniz.

1) ETİK DEĞERLERE BAĞLILIK

	Çok önemli	Önemli	Önemli değil	Hiç önemli değil	Bir fikrim yok
A. Yöneticilerin, özellikle kısa vadede, gerçekçi olmayan performans hedeflerine ulaşma baskısı altında olmaları (örn.hedeflere baz alınan ödüllendirmelerin bulunması)					
B. Çalışanların, tedarikçilerin, müşterilerin, halkın ve rakiplerin kaygıları dikkate alınarak oluşturulmuş etik değerler bulunması					
C. Kabul edilmiş davranış uygulamalarını içeren iş yönetmeliğinin bulunması ve yönetmeliğin, şirket ve toplum kültürüne uygun olması					

2) <u>TEŞVİKLER VE AYARTICILAR</u>					
	Çok önemli	Önemli	Önemli değil	Hiç önemli değil	Bir fikrim yok
A. Varlıkların ve kayıtların güvenli bir şekilde muhafazası					
B. Yöneticileri, varolan iç kontrolleri yoksaymaya ya da esgeçmeye dürtecek faktörlerin olmaMASı					
C. Mali raporlama işlemlerini düzenleyen rehberlere (el kitaplarına) uyulması					

3) <u>YÖNETİM KURULU / DENETİM KOMİTESİ</u>					
	Çok önemli	Önemli	Önemli değil	Hiç önemli değil	Bir fikrim yok
A. Denetim Komitesi veya Yönetim Kurulunun şirket dışından yöneticiler içeriyor olması					
B. Denetim Kurulu üyelerinin vasıflarının yeterli olması					
C. Denetim Komitesi veya Yönetim Kurulu'nun görevlerini ve sorumluluklarını yerine getirmede, objektif ve bağımsız hareket ediyor olması					

4) <u>YÖNETİMİN FELSEFESİ VE İŞLETME TARZI</u>					
	Çok önemli	Önemli	Önemli değil	Hiç önemli değil	Bir fikrim yok
A. Kabul edilen iş risklerinin şirketin kapasitesine ve edim gücüne uygun olması					
B. Denetçilerin geçmişte yapmış oldukları tespit ve önerilere ve genel olarak iç kontrole şirket yönetiminin önem vermesi					
C. Üst yönetimin tek kişinin egemenliğinde olmaMASı					

5) <u>YETKİNLİK</u>					
	Çok önemli	Önemli	Önemli değil	Hiç önemli değil	Bir fikrim yok
A. Çalışanların görevleri için gerekli bilgi ve becerilerin belirli olması ve bu bilgi ve beceride insanların görevde bulunması					
B. İç denetçilerin hataları tespit etmede yeterli yetkinliğe sahip olması ve hataların düzenli olarak raporlanması					
C. Şirketin mali işler yöneticilerinin raporlama standartlarını (TMS,SPK VUK vb. ilgili kanunlar/standartlar) bilmeleri ve vergisel ve diğer yasal düzenlemelere uymaları					

6) <u>ÖRGÜTSEL YAPI</u>					
	Çok önemli	Önemli	Önemli değil	Hiç önemli değil	Bir fikrim yok
A. İç denetçilere yüklenen görevlerin, sorumlulukların ve iç denetçilerin raporlama alanlarının uygun olması					
B. Örgütsel yapının şirket hedeflerine ve şirketin büyüklüğüne uygun bir yapıda olması					
C. Denetçilerin, çalışanlara, üst düzey yöneticilere ve yönetim kurulu / denetim komitesine kolayca erişebilmesi					

7) <u>YETKİLERİN VE SORUMLULUKLARIN TAYİNİ</u>					
	Çok önemli	Önemli	Önemli değil	Hiç önemli değil	Bir fikrim yok
A. Çalışanların görev dağılımının uygun bir şekilde yapılmış ve raporlama ilişkilerinin belirli olması					
B. Şirket işlemlerini yapmaya ve onaylamaya yetkili kişilerin mümkün olan her işlem grubu için belirli olması					
C. İnisiyatif kullanılması gereken durumlarda, inisiyatif kullanmaya yetkili ve yetkili olmayan personelin belirli olması					

8) <u>İNSAN KAYNAKLARI POLİTİKALARI VE UYGULAMALARI</u>					
	Çok önemli	Önemli	Önemli değil	Hiç önemli değil	Bir fikrim yok
A. Çalışanların izinleri, iş rotasyonları gibi konularda hükmedici şirket tüzük ve düzenlemelerine uyulması					
B. Yeni alınacak personelin özgeçmişinin ve referanslarının iyi incelenmesi ve personele verilecek eğitimin etkin olması					
C. Çalışanların düzenli ve objektif performans değerlendirmelerinin yapılıyor olması ve maaş artışları/terfilerinde performanslara uyulması					
D. Üst yönetimde sık sık iş bırakmaların olmaMASı					

9) <u>AHLAKİ REHBERLİK</u>					
	Çok önemli	Önemli	Önemli değil	Hiç önemli değil	Bir fikrim yok
A. Kabul edilmiş davranış uygulamalarını içeren iş yönetmeliğinin çalışanlara duyurulup etkin bir şekilde uygulanmasının sağlanması					
B. Vezne ya da nakit alıp veren ya da çeşitli menkul kıymetlerle ilgili işlem yapan tüm personelin,kendilerini şirkete bağlayıcı nitelikte, şirkete verilmiş teminatlarının bulunması					
C. Çalışanların aralarındaki rekabetin üst yönetim tarafından izlenerek etik olmayan rekabetin mümkün olduğunca önlenmesi					

10) Yukarıdaki kontrol çevresi ilkelerini göz önünde bulundurduğunuzda, denetimde bulunduğunuz müşterilerinizin yüzde kaçında "etkin bir kontrol çevresi gözlemledim" diyebilirsiniz?	
%0-%25	
%26-%50	
%51-%75	
%76-%100	

II. BÖLÜM Aşağıda, çeşitli denetçilerin görüşleri ve kendi gözlemlerimiz sonucunda, bağımsız denetim esnasında <u>en çok karşılaşılan 10 hata</u> ile ilgili sorular yer almaktadır. Lütfen, bu <u>hataların</u> etkin bir kontrol çevresi ile <u>önlenip önlenemeyeceğini</u>, size en uygun seçeneği seçerek belirtiniz. "Kesinlikle önlenirdi" ya da "önlenirdi" diye cevapladığınız her hata için, <u>bir sonraki soruda</u>, <u>en çok hangi kontrol çevresi etmeni ile önleneceği</u> sorulmaktadır. Lütfen size en uygun seçeneği seçerek belirtiniz.

11) İptal edilen faturaların tüm nüshalarının dosyada bulunmadığı, gider makbuzlarının ve faturalarının seri/sıra no takip etmediği tespit edilmiştir.	
Etkin bir kontrol çevresi ile "kesinlikle önlenirdi".	
Etkin bir kontrol çevresi ile "önlenirdi".	
Etkin bir kontrol çevresi ile "önlenemezdi".	
Etkin bir kontrol çevresi ile "kesinlikle önlenemezdi".	
Bir fikrim yok.	

12) Yukarıdaki soruyu (11.soru) " <u>Kesinlikle önlenirdi</u> " ya da " <u>önlenirdi</u> " diye cevapladıysanız, sizce, aşağıdaki kontrol çevresi etmenlerinden hangisi ile bu hata önlenebilirdi?	
Etik değerlere bağlılık	
Teşvikler ve ayartıcılar	
Ahlaki rehberlik	
Yetkinlik	
Yönetim Kurulu / Denetim Komitesi	
Yönetimin Felsefesi ve İşletme Tarzı	
Örgütsel Yapı	
Yetkilerin ve Sorumlulukların Tayini	
İnsan Kaynakları Politikaları ve Uygulamaları	

13) Kişisel harcamalar (örneğin şirket sahibinin benzin, seyahat giderleri vb.) şirket giderleri arasında yer almaktadır.	
Etkin bir kontrol çevresi ile "kesinlikle önlenirdi".	
Etkin bir kontrol çevresi ile "önlenirdi".	
Etkin bir kontrol çevresi ile "önlenemezdi".	
Etkin bir kontrol çevresi ile "kesinlikle önlenemezdi".	
Bir fikrim yok.	

14) Yukarıdaki soruyu (13.soru) " <u>Kesinlikle önlenirdi</u> " ya da " <u>önlenirdi</u> " diye cevapladıysanız, sizce, aşağıdaki kontrol çevresi etmenlerinden hangisi ile bu hata önlenebilirdi?	
Etik değerlere bağlılık	
Teşvikler ve ayartıcılar	
Ahlaki rehberlik	
Yetkinlik	
Yönetim Kurulu / Denetim Komitesi	
Yönetimin Felsefesi ve İşletme Tarzı	
Örgütsel Yapı	
Yetkilerin ve Sorumlulukların Tayini	
İnsan Kaynakları Politikaları ve Uygulamaları	

15) Aktifleştirilmesi gereken sabit kıymet satın alımlarının ve bu alımlarla ilgili harcamaların ya da mevcut sabit kıymetlerin kapasitesini/ömrünü artırıcı harcamaların aktifleştirilmediği görülmüştür.	
Etkin bir kontrol çevresi ile "kesinlikle önlenirdi".	
Etkin bir kontrol çevresi ile "önlenirdi".	
Etkin bir kontrol çevresi ile "önlenemezdi".	
Etkin bir kontrol çevresi ile "kesinlikle önlenemezdi".	
Bir fikrim yok.	

16) Yukarıdaki soruyu (15.soru) " <u>Kesinlikle önlenirdi</u> " ya da " <u>önlenirdi</u> " diye <u>cevapladıysanız</u> , sizce, aşağıdaki kontrol çevresi etmenlerinden hangisi ile bu hata önlenebilirdi?	
Etik değerlere bağlılık	
Teşvikler ve ayartıcılar	
Ahlaki rehberlik	
Yetkinlik	
Yönetim Kurulu / Denetim Komitesi	
Yönetimin Felsefesi ve İşletme Tarzı	
Örgütsel Yapı	
Yetkilerin ve Sorumlulukların Tayini	
İnsan Kaynakları Politikaları ve Uygulamaları	

17) Ortaklardan ya da ortaklarla ilişkili olan kişilerden doğrudan ya da dolaylı olarak temin edilerek işletmede kullanılan borçların, şirketin özsermayesinin üç katını aştığı görülmüştür.	
Etkin bir kontrol çevresi ile "kesinlikle önlenirdi".	
Etkin bir kontrol çevresi ile "önlenirdi".	
Etkin bir kontrol çevresi ile "önlenemezdi".	
Etkin bir kontrol çevresi ile "kesinlikle önlenemezdi".	
Bir fikrim yok.	

18) Yukarıdaki soruyu (17.soru) " <u>Kesinlikle önlenirdi</u> " ya da " <u>önlenirdi</u> " diye cevapladıysanız, sizce, aşağıdaki kontrol çevresi etmenlerinden hangisi ile bu hata önlenebilirdi?	
Etik değerlere bağlılık	
Teşvikler ve ayartıcılar	
Ahlaki rehberlik	
Yetkinlik	
Yönetim Kurulu / Denetim Komitesi	
Yönetimin Felsefesi ve İşletme Tarzı	
Örgütsel Yapı	
Yetkilerin ve Sorumlulukların Tayini	
İnsan Kaynakları Politikaları ve Uygulamaları	

19) Satın alma ve dışarıdan tedariklerde yüksek komisyonlarla maliyet artışı yapılmış olduğu tespit edilmiştir (örtülü kazanç dağıtımı olasılığı).	
Etkin bir kontrol çevresi ile "kesinlikle önlenirdi".	
Etkin bir kontrol çevresi ile "önlenirdi".	
Etkin bir kontrol çevresi ile "önlenemezdi".	
Etkin bir kontrol çevresi ile "kesinlikle önlenemezdi".	
Bir fikrim yok.	

20) Yukarıdaki soruyu (19.soru) " <u>Kesinlikle önlenirdi</u> " ya da " <u>önlenirdi</u> " diye cevapladıysanız, sizce, aşağıdaki kontrol çevresi etmenlerinden hangisi ile bu hata önlenebilirdi?	
Etik değerlere bağlılık	
Teşvikler ve ayartıcılar	
Ahlaki rehberlik	
Yetkinlik	
Yönetim Kurulu / Denetim Komitesi	
Yönetimin Felsefesi ve İşletme Tarzı	
Örgütsel Yapı	
Yetkilerin ve Sorumlulukların Tayini	
İnsan Kaynakları Politikaları ve Uygulamaları	

21) İşletmenin gelir, gider, banka hareketleri ve benzeri döviz işlemlerinin muhasebeleştirilmesinde, döviz bedellerinin Merkez Bankası alış kuru harici kurlarla, döviz cinsinden kasanın da efektif alış kuru harici kurlarla değerlendirildiği tespit edilmiştir.	
Etkin bir kontrol çevresi ile "kesinlikle önlenirdi".	
Etkin bir kontrol çevresi ile "önlenirdi".	
Etkin bir kontrol çevresi ile "önlenemezdi".	
Etkin bir kontrol çevresi ile "kesinlikle önlenemezdi".	
Bir fikrim yok.	

22) Yukarıdaki soruyu (21.soru) " <u>Kesinlikle önlenirdi</u> " ya da " <u>önlenirdi</u> " diye cevapladıysanız, sizce, aşağıdaki kontrol çevresi etmenlerinden hangisi ile bu hata önlenebilirdi?	
Etik değerlere bağlılık	
Teşvikler ve ayartıcılar	
Ahlaki rehberlik	
Yetkinlik	
Yönetim Kurulu / Denetim Komitesi	
Yönetimin Felsefesi ve İşletme Tarzı	
Örgütsel Yapı	
Yetkilerin ve Sorumlulukların Tayini	
İnsan Kaynakları Politikaları ve Uygulamaları	

23) Uluslararası/Türk Muhasebe Standartlarına uygun raporlamalarda özellikle, türev araçlarının değerlemesinde (UMS/TMS 39), konsolide mali tabloların hazırlanmasında yapılan eliminasyonlarda (UMS/TMS 27), ertelenmiş vergi hesaplamalarında (UMS/TMS 12) ve yabancı para cinsinden raporlamalarda (UMS/TMS 21) hatalar bulunmaktadır.	
Etkin bir kontrol çevresi ile "kesinlikle önlenirdi".	
Etkin bir kontrol çevresi ile "önlenirdi".	
Etkin bir kontrol çevresi ile "önlenemezdi".	
Etkin bir kontrol çevresi ile "kesinlikle önlenemezdi".	
Bir fikrim yok.	

24) Yukarıdaki soruyu (23.soru) " <u>Kesinlikle önlenirdi</u> " ya da " <u>önlenirdi</u> " diye cevapladıysanız, sizce, aşağıdaki kontrol çevresi etmenlerinden hangisi ile bu hata önlenebilirdi?	
Etik değerlere bağlılık	
Teşvikler ve ayartıcılar	
Ahlaki rehberlik	
Yetkinlik	
Yönetim Kurulu / Denetim Komitesi	
Yönetimin Felsefesi ve İşletme Tarzı	
Örgütsel Yapı	
Yetkilerin ve Sorumlulukların Tayini	
İnsan Kaynakları Politikaları ve Uygulamaları	

25) Satılan malın maliyetinin hesaplanmasında formül hataları bulunduğu ve maliyete dahil edilmesi gereken genel üretim giderlerinin genel yönetim giderleriyle karıştırıldığı görülmüştür.	
Etkin bir kontrol çevresi ile "kesinlikle önlenirdi".	
Etkin bir kontrol çevresi ile "önlenirdi".	
Etkin bir kontrol çevresi ile "önlenemezdi".	
Etkin bir kontrol çevresi ile "kesinlikle önlenemezdi".	
Bir fikrim yok.	

26) Yukarıdaki soruyu (25.soru) " <u>Kesinlikle önlenirdi</u> " ya da " <u>önlenirdi</u> " diye cevapladıysanız, sizce, aşağıdaki kontrol çevresi etmenlerinden hangisi ile bu hata önlenebilirdi?	
Etik değerlere bağlılık	
Teşvikler ve ayartıcılar	
Ahlaki rehberlik	
Yetkinlik	
Yönetim Kurulu / Denetim Komitesi	
Yönetimin Felsefesi ve İşletme Tarzı	
Örgütsel Yapı	
Yetkilerin ve Sorumlulukların Tayini	
İnsan Kaynakları Politikaları ve Uygulamaları	

27) Sabit kıymetlere ayrılan amortisman oranlarında ya da kullanılan iktisadi ömürlerde tutarsızlık görülmüştür.	
Etkin bir kontrol çevresi ile "kesinlikle önlenirdi".	
Etkin bir kontrol çevresi ile "önlenirdi".	
Etkin bir kontrol çevresi ile "önlenemezdi".	
Etkin bir kontrol çevresi ile "kesinlikle önlenemezdi".	
Bir fikrim yok.	

28) Yukarıdaki soruyu (27.soru) " <u>Kesinlikle önlenirdi</u> " ya da " <u>önlenirdi</u> " diye <u>cevapladıysanız</u> , sizce, aşağıdaki kontrol çevresi etmenlerinden hangisi ile bu hata önlenebilirdi?	
Etik değerlere bağlılık	
Teşvikler ve ayartıcılar	
Ahlaki rehberlik	
Yetkinlik	
Yönetim Kurulu / Denetim Komitesi	
Yönetimin Felsefesi ve İşletme Tarzı	
Örgütsel Yapı	
Yetkilerin ve Sorumlulukların Tayini	
İnsan Kaynakları Politikaları ve Uygulamaları	

29) Gelecek aylara/yıllara ait olan <u>giderlerin</u> veya <u>gelirlerin</u> dönemsellik ilkesine uygun olarak muhasebeleştirilmediği görülmüştür.	
Etkin bir kontrol çevresi ile "kesinlikle önlenirdi".	
Etkin bir kontrol çevresi ile "önlenirdi".	
Etkin bir kontrol çevresi ile "önlenemezdi".	
Etkin bir kontrol çevresi ile "kesinlikle önlenemezdi".	
Bir fikrim yok.	

30) Yukarıdaki soruyu (29.soru) " <u>Kesinlikle önlenirdi</u> " ya da " <u>önlenirdi</u> " diye cevapladıysanız, sizce, aşağıdaki kontrol çevresi etmenlerinden hangisi ile bu hata önlenebilirdi?	
Etik değerlere bağlılık	
Teşvikler ve ayartıcılar	
Ahlaki rehberlik	
Yetkinlik	
Yönetim Kurulu / Denetim Komitesi	
Yönetimin Felsefesi ve İşletme Tarzı	
Örgütsel Yapı	
Yetkilerin ve Sorumlulukların Tayini	
İnsan Kaynakları Politikaları ve Uygulamaları	

31) Genel olarak, etkin bir kontrol çevresi ile muhasebe hatalarının yüzde kaçının engellenebileceğini düşünüyorsunuz?	
%0-%25	
%26-%50	
%51-%75	
%76-%100	

32) Etkin bir kontrol çevresi ile önlenemeyecek hataların <u>neden önlenemeyeceğini</u> düşünüyorsunuz? (birden fazla seçenek işaretleyebilirsiniz.)	
Sürekli değişen yasal düzenlemeleri takip etmenin zorluğu	
Kayıtdışı işlemlerin iç kontrol ile tespit edilememesi	
Birbirinin iç kontrolünü sağlayan departmanların aralarında anlaşarak (muvazaalı) iç kontrolü esgeçebilmesi	
İç kontrolün hiçbir zaman dış kontrol (örn.dış denetim) kadar bağımsız olamayacağı	
Belirli alanlarda iç kontrol sağlamanın maliyetli oluşu	
İnsiyatif kullanmayı gerektiren durumlar olması	
Yapılan bilinçli hatadan sağlanacak menfaatin bu hatadan dolayı gelecek cezadan fazla olması	
Üst yönetimin talebine çalışanların karşı gelememesi	
Kontrol çevresinin etkin bir iç kontrol için gerekli bileşenlerden yalnızca biri olması	
Diğer (Lütfen belirtiniz):	

III. BÖLÜM Son bölümde sizinle ilgili birkaç soru yer almaktadır. Sol tarafında yıldız (*) olan sorular cevaplanması gerekli, yıldız (*) olmayanlar opsiyonel sorulardır. Tüm cevaplarınız gizli olarak tutulacak ve raporda isim vb.bilgiler kesinlikle yer almayacaktır.
--

33) Eğitim durumunuz?	
Lise	
Önlisans	
Lisans	
Yüksek lisans	
Doktora	

34) Denetim/kurumsal finansman alanında kaç <u>yıllık</u> deneyiminiz var? (ltfen rakamla belirtiniz.)

35) alıřtıđınız kuruluşun adı?*

36) alıřtıđınız kuruluştaki konumunuz nedir?	
Deneti	
Kıdemli Deneti	
Baş Deneti	
Sorumlu Ortak	
Diđer (Ltfen belirtiniz):	

37) Muhasebe mesleđi ile ilgili herhangi bir ruhsatınız var mı ?	
SM ruhsatım var	
SMMM ruhsatım var	
YMM ruhsatım var	
Ruhsatım yok	
Diđer (rn. CPA, CIA) (Ltfen belirtiniz):	

38) İ kontrol zerine ya da i kontrolu ieren bir eđitim aldınız mı?	
Evet	Hayır

39) Anketin sonularının elinize ulařmasını isterseniz ltfen email bilgilerinizi yazınız.*

APPENDIX 5: BINARY LOGIT REGRESSION ANALYSES EXCLUDING Q1

Binary Logit - Estimation by Newton-Raphson					
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100					
Dependent Variable Q11					
Usable Observations	110	Degrees of Freedom		101	
Log Likelihood	-69.13	Log Likelihood(Base)		-75.35	
Average Likelihood	0.53				
Pseudo-R**2	0.11				
Variable		Coeff	Std Error	T-Stat	Signif
1. Constant		-1.97	3.11	-0.63	0.53
2. Q2		1.24	2.33	0.53	0.60
3. Q3		-0.11	2.06	-0.05	0.96
4. Q4		-2.57	2.21	-1.16	0.24
5. Q5		-4.49	3.06	-1.47	0.14
6. Q6		5.24	2.47	2.12	0.03
7. Q7		3.79	2.61	1.45	0.15
8. Q8		-2.60	2.83	-0.92	0.36
9. Q9		2.17	1.60	1.36	0.17

Binary Logit - Estimation by Newton-Raphson					
Convergence in 5 Iterations. Final criterion was 0.0000001 <= 0.0000100					
Dependent Variable Q13					
Usable Observations	110	Degrees of Freedom		101	
Log Likelihood	-63.74	Log Likelihood(Base)		-70.25	
Average Likelihood	0.56				
Pseudo-R**2	0.12				
Variable		Coeff	Std Error	T-Stat	Signif
1. Constant		-6.74	3.40	-1.98	0.05
2. Q2		2.17	2.79	0.78	0.44
3. Q3		4.20	2.49	1.68	0.09
4. Q4		-0.38	2.24	-0.17	0.87
5. Q5		-3.40	3.23	-1.05	0.29
6. Q6		5.94	2.88	2.06	0.04
7. Q7		-1.49	2.88	-0.52	0.61
8. Q8		-0.88	2.78	-0.32	0.75
9. Q9		0.64	1.77	0.36	0.72

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000003 <= 0.0000100				
Dependent Variable Q15				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-63.27	Log Likelihood(Base)	-75.59	
Average Likelihood	0.56			
Pseudo-R**2	0.22			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-9.42	3.53	-2.67 0.01
2. Q2		-1.98	2.46	-0.80 0.42
3. Q3		5.09	2.46	2.07 0.04
4. Q4		-4.79	2.40	-1.99 0.05
5. Q5		-0.76	3.20	-0.24 0.81
6. Q6		5.14	2.65	1.94 0.05
7. Q7		5.57	2.97	1.88 0.06
8. Q8		-0.50	2.92	-0.17 0.87
9. Q9		2.78	1.73	1.61 0.11

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100				
Dependent Variable Q17				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-68.23	Log Likelihood(Base)	-73.61	
Average Likelihood	0.54			
Pseudo-R**2	0.09			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-6.04	3.20	-1.89 0.06
2. Q2		2.99	2.65	1.13 0.26
3. Q3		2.82	2.23	1.26 0.21
4. Q4		-2.63	2.13	-1.24 0.22
5. Q5		-2.33	3.07	-0.76 0.45
6. Q6		3.07	2.54	1.21 0.23
7. Q7		-0.36	2.68	-0.14 0.89
8. Q8		1.34	2.73	0.49 0.62
9. Q9		1.69	1.66	1.01 0.31

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000018 <= 0.0000100				
Dependent Variable Q19				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-59.33	Log Likelihood(Base)	-64.45	
Average Likelihood	0.58			
Pseudo-R**2	0.09			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-6.37	3.60	-1.77 0.08
2. Q2		2.36	3.02	0.78 0.44
3. Q3		2.94	2.58	1.14 0.25
4. Q4		-2.78	2.24	-1.24 0.21
5. Q5		-0.74	3.40	-0.22 0.83
6. Q6		4.64	2.95	1.57 0.12
7. Q7		-0.28	3.02	-0.09 0.93
8. Q8		-2.18	2.84	-0.77 0.44
9. Q9		2.00	1.90	1.05 0.29

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100				
Dependent Variable Q21				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-70.07	Log Likelihood(Base)	-75.79	
Average Likelihood	0.53			
Pseudo-R**2	0.10			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-6.94	3.19	-2.17 0.03
2. Q2		0.66	2.30	0.29 0.78
3. Q3		3.09	2.09	1.47 0.14
4. Q4		0.91	2.06	0.44 0.66
5. Q5		-2.97	2.99	-0.99 0.32
6. Q6		1.89	2.39	0.79 0.43
7. Q7		4.96	2.71	1.83 0.07
8. Q8		-0.70	2.61	-0.27 0.79
9. Q9		0.25	1.57	0.16 0.87

Binary Logit - Estimation by Newton-Raphson					
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100					
Dependent Variable Q23					
Usable Observations	110	Degrees of Freedom 101			
Log Likelihood	-68.43	Log Likelihood(Base) -72.64			
Average Likelihood	0.54				
Pseudo-R**2	0.07				
Variable		Coeff	Std Error	T-Stat	Signif
1. Constant		-5.81	3.22	-1.80	0.07
2. Q2		2.34	2.53	0.93	0.35
3. Q3		1.40	2.18	0.64	0.52
4. Q4		-2.15	2.12	-1.01	0.31
5. Q5		-2.17	3.04	-0.71	0.48
6. Q6		2.00	2.48	0.81	0.42
7. Q7		4.42	2.76	1.59	0.11
8. Q8		1.47	2.76	0.53	0.59
9. Q9		-1.46	1.63	-0.90	0.37

Binary Logit - Estimation by Newton-Raphson					
Convergence in 4 Iterations. Final criterion was 0.0000000 <= 0.0000100					
Dependent Variable Q25					
Usable Observations	110	Degrees of Freedom 101			
Log Likelihood	-72.98				
Average Likelihood	0.52				
Pseudo-R**2	0.04				
Log Likelihood(Base)	-75.35				
Variable		Coeff	Std Error	T-Stat	Signif
1. Constant		-4.99	3.02	-1.65	0.09
2. Q2		-1.72	2.28	-0.76	0.45
3. Q3		0.85	2.01	0.42	0.67
4. Q4		-0.16	2.05	-0.08	0.94
5. Q5		1.19	2.87	0.42	0.68
6. Q6		-0.34	2.37	-0.15	0.88
7. Q7		2.18	2.47	0.88	0.38
8. Q8		2.48	2.68	0.93	0.35
9. Q9		1.19	1.56	0.77	0.44

Binary Logit - Estimation by Newton-Raphson					
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100					
Dependent Variable Q27					
Usable Observations	110	Degrees of Freedom 101			
Log Likelihood	-68.33	Log Likelihood(Base) -75.35			
Average Likelihood	0.54				
Pseudo-R**2	0.13				
Variable		Coeff	Std Error	T-Stat	Signif
1. Constant		-6.86	3.19	-2.15	0.03
2. Q2		1.53	2.43	0.63	0.53
3. Q3		2.13	2.19	0.97	0.33
4. Q4		-0.45	2.10	-0.22	0.83
5. Q5		-4.97	3.14	-1.58	0.11
6. Q6		5.71	2.59	2.21	0.03
7. Q7		4.19	2.75	1.52	0.13
8. Q8		-0.83	2.67	-0.31	0.76
9. Q9		0.16	1.62	0.09	0.92

Binary Logit - Estimation by Newton-Raphson					
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100					
Dependent Variable Q29					
Usable Observations	110	Degrees of Freedom 101			
Log Likelihood	-67.97				
Average Likelihood	0.54				
Pseudo-R**2	0.14				
Log Likelihood(Base)	-75.59				
Variable		Coeff	Std Error	T-Stat	Signif
1. Constant		-6.34	3.19	-1.98	0.05
2. Q2		2.61	2.51	1.04	0.29
3. Q3		2.59	2.20	1.18	0.24
4. Q4		-4.45	2.25	-1.97	0.05
5. Q5		-1.67	3.06	-0.55	0.58
6. Q6		4.70	2.59	1.81	0.07
7. Q7		-0.05	2.66	-0.02	0.99
8. Q8		1.22	2.69	0.45	0.65
9. Q9		2.28	1.65	1.38	0.17

APPENDIX 6: BINARY LOGIT REGRESSION ANALYSES EXCLUDING Q9

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100				
Dependent Variable Q11				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-69.13	Log Likelihood(Base)	-75.35	
Average Likelihood	0.53			
Pseudo-R**2	0.11			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-1.97	3.11	-0.63 0.53
2. Q1		2.17	1.60	1.36 0.17
3. Q2		1.24	2.33	0.53 0.60
4. Q3		-0.11	2.06	-0.05 0.96
5. Q4		-2.57	2.21	-1.16 0.24
6. Q5		-4.50	3.06	-1.47 0.14
7. Q6		5.24	2.47	2.12 0.03
8. Q7		3.79	2.61	1.45 0.15
9. Q8		-2.60	2.83	-0.92 0.36

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000001 <= 0.0000100				
Dependent Variable Q13				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-63.74	Log Likelihood(Base)	-70.25	
Average Likelihood	0.56			
Pseudo-R**2	0.12			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-6.74	3.40	-1.98 0.05
2. Q1		0.64	1.77	0.36 0.72
3. Q2		2.17	2.79	0.78 0.44
4. Q3		4.20	2.49	1.68 0.09
5. Q4		-0.38	2.24	-0.17 0.87
6. Q5		-3.40	3.23	-1.05 0.29
7. Q6		5.94	2.88	2.06 0.04
8. Q7		-1.49	2.88	-0.52 0.61
9. Q8		-0.88	2.78	-0.32 0.75

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000003 <= 0.0000100				
Dependent Variable Q15				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-63.27	Log Likelihood(Base)	-75.59	
Average Likelihood	0.56			
Pseudo-R**2	0.22			
Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	-9.42	3.53	-2.67	0.01
2. Q1	2.78	1.73	1.61	0.11
3. Q2	-1.98	2.46	-0.80	0.42
4. Q3	5.09	2.46	2.07	0.04
5. Q4	-4.79	2.40	-1.99	0.05
6. Q5	-0.76	3.20	-0.24	0.81
7. Q6	5.14	2.65	1.94	0.05
8. Q7	5.57	2.97	1.88	0.06
9. Q8	-0.50	2.92	-0.17	0.87

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100				
Dependent Variable Q17				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-68.23			
Average Likelihood	0.54			
Pseudo-R**2	0.09			
Log Likelihood(Base)	-73.61			
Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	-6.04	3.20	-1.89	0.06
2. Q1	1.69	1.66	1.01	0.31
3. Q2	2.99	2.65	1.13	0.26
4. Q3	2.82	2.23	1.26	0.21
5. Q4	-2.63	2.13	-1.24	0.22
6. Q5	-2.33	3.07	-0.76	0.45
7. Q6	3.07	2.54	1.21	0.23
8. Q7	-0.36	2.68	-0.14	0.89
9. Q8	1.34	2.73	0.49	0.62

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000018 <= 0.0000100				
Dependent Variable Q19				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-59.33	Log Likelihood(Base)	-64.45	
Average Likelihood	0.58			
Pseudo-R**2	0.09			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-6.37	3.60	-1.77 0.08
2. Q1		2.00	1.90	1.05 0.29
3. Q2		2.36	3.02	0.78 0.44
4. Q3		2.94	2.58	1.14 0.25
5. Q4		-2.78	2.24	-1.24 0.21
6. Q5		-0.74	3.40	-0.22 0.83
7. Q6		4.64	2.95	1.57 0.12
8. Q7		-0.28	3.02	-0.09 0.93
9. Q8		-2.18	2.84	-0.77 0.44

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100				
Dependent Variable Q21				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-70.07	Log Likelihood(Base)	-75.79	
Average Likelihood	0.53			
Pseudo-R**2	0.10			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-6.94	3.19	-2.17 0.03
2. Q1		0.25	1.57	0.16 0.87
3. Q2		0.66	2.30	0.29 0.78
4. Q3		3.09	2.09	1.47 0.14
5. Q4		0.91	2.06	0.44 0.66
6. Q5		-2.97	2.99	-0.99 0.32
7. Q6		1.89	2.39	0.79 0.43
8. Q7		4.96	2.71	1.83 0.07
9. Q8		-0.70	2.61	-0.27 0.79

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100				
Dependent Variable Q23				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-68.43	Log Likelihood(Base)	-72.64	
Average Likelihood	0.54			
Pseudo-R**2	0.07			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-5.81	3.22	-1.80 0.07
2. Q1		-1.46	1.63	-0.90 0.37
3. Q2		2.34	2.53	0.93 0.35
4. Q3		1.40	2.18	0.64 0.52
5. Q4		-2.15	2.12	-1.01 0.31
6. Q5		-2.17	3.04	-0.71 0.48
7. Q6		2.00	2.48	0.81 0.42
8. Q7		4.42	2.76	1.59 0.11
9. Q8		1.47	2.76	0.53 0.59

Binary Logit - Estimation by Newton-Raphson				
Convergence in 4 Iterations. Final criterion was 0.0000000 <= 0.0000100				
Dependent Variable Q25				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-72.98	Log Likelihood(Base)	-75.35	
Average Likelihood	0.52			
Pseudo-R**2	0.04			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-4.99	3.02	-1.65 0.09
2. Q1		1.19	1.56	0.77 0.44
3. Q2		-1.72	2.28	-0.76 0.45
4. Q3		0.85	2.01	0.42 0.67
5. Q4		-0.16	2.05	-0.08 0.94
6. Q5		1.19	2.87	0.42 0.68
7. Q6		-0.34	2.37	-0.15 0.88
8. Q7		2.18	2.47	0.88 0.38
9. Q8		2.48	2.68	0.93 0.35

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100				
Dependent Variable Q27				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-68.33	Log Likelihood(Base)	-75.35	
Average Likelihood	0.54			
Pseudo-R**2	0.13			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-6.86	3.19	-2.15 0.03
2. Q1		0.16	1.62	0.09 0.92
3. Q2		1.53	2.43	0.63 0.53
4. Q3		2.13	2.19	0.97 0.33
5. Q4		-0.45	2.10	-0.22 0.83
6. Q5		-4.97	3.14	-1.58 0.11
7. Q6		5.71	2.59	2.21 0.03
8. Q7		4.19	2.75	1.52 0.13
9. Q8		-0.83	2.67	-0.31 0.76

Binary Logit - Estimation by Newton-Raphson				
Convergence in 5 Iterations. Final criterion was 0.0000000 <= 0.0000100				
Dependent Variable Q29				
Usable Observations	110	Degrees of Freedom	101	
Log Likelihood	-67.97	Log Likelihood(Base)	-75.59	
Average Likelihood	0.54			
Pseudo-R**2	0.14			
Variable		Coeff	Std Error	T-Stat Signif
1. Constant		-6.34	3.19	-1.98 0.05
2. Q1		2.28	1.65	1.38 0.17
3. Q2		2.61	2.51	1.04 0.29
4. Q3		2.59	2.20	1.18 0.24
5. Q4		-4.45	2.25	-1.97 0.05
6. Q5		-1.67	3.06	-0.55 0.58
7. Q6		4.70	2.59	1.81 0.07
8. Q7		-0.05	2.66	-0.02 0.99
9. Q8		1.22	2.69	0.45 0.65

APPENDIX 7: T-TESTS

LEVEL OF EDUCATION						95% Confidence Interval of the Diff	
	Sig.	t	df	Mean Diff	Std. Error Diff	Lower	Upper
Q1a	0.715	-0.384	102	-0.046	0.120	-0.285	0.192
Q1b	0.982	0.178	103	0.022	0.121	-0.219	0.262
Q1c	0.635	0.075	103	0.010	0.141	-0.268	0.289
Q2a	0.228	-0.638	104	-0.060	0.095	-0.248	0.127
Q2b	0.023	-1.252	104	-0.163	0.131	-0.422	0.095
Q2c	0.131	-1.513	104	-0.187	0.124	-0.432	0.058
Q3a	0.094	-0.331	101	-0.053	0.160	-0.371	0.265
Q3b	0.511	0.178	104	0.018	0.103	-0.186	0.223
Q3c	0.565	0.359	104	0.034	0.094	-0.152	0.220
Q4a	0.196	1.841	102	0.213	0.116	-0.016	0.442
Q4b	0.353	-0.029	104	-0.003	0.105	-0.210	0.204
Q4c	0.177	0.689	103	0.093	0.136	-0.175	0.362
Q5a	0.794	-1.320	104	-0.138	0.104	-0.345	0.069
Q5b	0.060	-1.449	104	-0.150	0.104	-0.356	0.055
Q5c	0.252	-0.964	104	-0.097	0.100	-0.296	0.102
Q6a	0.665	-0.606	104	-0.063	0.104	-0.270	0.143
Q6b	0.513	-0.822	104	-0.095	0.116	-0.325	0.135
Q6c	0.552	-0.240	103	-0.028	0.116	-0.259	0.203
Q7a	0.185	-0.121	103	-0.013	0.106	-0.223	0.197
Q7b	0.499	-0.785	104	-0.082	0.105	-0.290	0.126
Q7c	0.489	-0.808	103	-0.096	0.118	-0.330	0.139
Q8a	0.846	0.422	103	0.052	0.124	-0.194	0.299
Q8b	0.172	1.379	104	0.135	0.098	-0.059	0.329
Q8c	0.185	-0.172	104	-0.018	0.107	-0.231	0.194
Q8d	0.136	-1.320	104	-0.160	0.121	-0.399	0.080
Q9a	0.172	2.192	104	0.268	0.122	0.026	0.509
Q9b	0.280	-1.823	98	-0.332	0.182	-0.693	0.029
Q9c	0.500	-0.931	101	-0.113	0.121	-0.353	0.127
Q10	0.557	-0.689	104	-0.140	0.203	-0.542	0.262
Q11	0.994	0.004	102	0.000	0.102	-0.203	0.204
Q13	0.018	-0.650	104	-0.115	0.177	-0.466	0.236
Q15	0.205	-0.296	104	-0.040	0.134	-0.306	0.227
Q17	0.569	-0.465	104	-0.083	0.179	-0.437	0.271
Q19	0.546	0.455	104	0.073	0.160	-0.244	0.390
Q21	0.120	1.113	104	0.161	0.145	-0.126	0.448
Q23	0.498	0.433	104	0.073	0.169	-0.261	0.408
Q25	0.873	1.805	104	0.229	0.127	-0.023	0.481
Q27	0.218	-0.198	104	-0.031	0.158	-0.345	0.283
Q29	0.198	-0.805	104	-0.127	0.158	-0.442	0.187
Q31	0.568	-0.262	104	-0.035	0.135	-0.302	0.232

TRAINING ON INTERNAL CONTROL						95% Confidence Interval of the Diff	
	Sig.	t	df	Mean Diff	Std. Error Diff	Lower	Upper
Q1a	0.002	-2.062	104	-0.252	0.122	-0.493	-0.010
Q1b	0.158	-0.552	105	-0.070	0.126	-0.319	0.180
Q1c	0.445	-1.430	105	-0.208	0.145	-0.496	0.080
Q2a	0.046	-1.171	106	-0.114	0.097	-0.307	0.079
Q2b	0.254	0.134	106	0.018	0.136	-0.251	0.288
Q2c	0.378	-1.675	106	-0.215	0.128	-0.469	0.039
Q3a	0.656	-1.394	103	-0.230	0.165	-0.557	0.097
Q3b	0.451	-0.889	106	-0.095	0.106	-0.305	0.116
Q3c	0.078	-1.213	106	-0.116	0.096	-0.307	0.074
Q4a	0.621	0.938	104	0.114	0.122	-0.127	0.355
Q4b	0.104	0.832	106	0.090	0.108	-0.124	0.303
Q4c	0.722	0.970	105	0.136	0.140	-0.142	0.414
Q5a	0.255	-0.757	106	-0.082	0.109	-0.298	0.133
Q5b	0.099	-2.327	106	-0.246	0.106	-0.456	-0.036
Q5c	0.653	0.128	106	0.013	0.104	-0.193	0.220
Q6a	0.578	-1.365	106	-0.147	0.107	-0.360	0.066
Q6b	0.347	-0.917	106	-0.110	0.120	-0.349	0.128
Q6c	0.042	-1.654	105	-0.198	0.120	-0.436	0.039
Q7a	0.518	-0.464	105	-0.051	0.110	-0.270	0.168
Q7b	0.622	-1.863	106	-0.200	0.107	-0.413	0.013
Q7c	0.007	-0.633	105	-0.078	0.124	-0.324	0.167
Q8a	0.928	-0.882	105	-0.115	0.131	-0.375	0.144
Q8b	0.085	-0.496	106	-0.051	0.103	-0.254	0.153
Q8c	0.087	-0.567	106	-0.063	0.111	-0.283	0.157
Q8d	0.514	0.048	106	0.006	0.127	-0.246	0.258
Q9a	0.972	0.308	106	0.040	0.130	-0.217	0.297
Q9b	0.512	1.037	100	0.199	0.192	-0.182	0.580
Q9c	0.003	1.727	103	0.220	0.127	-0.033	0.473
Q10	0.319	0.012	106	0.002	0.209	-0.413	0.417
Q11	0.994	0.004	104	0.000	0.105	-0.207	0.208
Q13	0.001	-1.225	106	-0.224	0.183	-0.587	0.139
Q15	0.372	0.244	106	0.034	0.139	-0.242	0.310
Q17	0.621	1.433	106	0.263	0.184	-0.101	0.627
Q19	0.002	-0.379	106	-0.063	0.166	-0.393	0.267
Q21	0.765	-0.169	106	-0.025	0.150	-0.324	0.273
Q23	0.121	-0.992	106	-0.172	0.173	-0.516	0.172
Q25	0.531	1.474	106	0.195	0.132	-0.067	0.458
Q27	0.144	0.697	106	0.114	0.164	-0.210	0.438
Q29	0.060	-0.450	106	-0.074	0.164	-0.400	0.252
Q31	0.112	-0.253	106	-0.035	0.139	-0.311	0.241

EXPERIENCE (0-5 YEARS OR 6 YEARS AND MORE)						95% Confidence Interval of the Diff	
	Sig.	t	df	Mean Diff	Std. Error Diff	Lower	Upper
Q1a	0.298	1.190	101	0.137	0.115	-0.091	0.366
Q1b	0.721	0.606	102	0.071	0.117	-0.162	0.304
Q1c	0.527	1.412	102	0.191	0.136	-0.077	0.460
Q2a	0.003	1.601	103	0.144	0.090	-0.034	0.322
Q2b	0.389	0.398	103	0.051	0.128	-0.203	0.304
Q2c	0.554	2.425	103	0.289	0.119	0.053	0.525
Q3a	0.058	0.602	100	0.094	0.155	-0.215	0.402
Q3b	0.001	2.549	103	0.247	0.097	0.055	0.440
Q3c	0.001	1.738	103	0.155	0.089	-0.022	0.331
Q4a	0.098	-0.645	101	-0.074	0.114	-0.300	0.153
Q4b	0.121	-0.739	103	-0.075	0.101	-0.274	0.125
Q4c	0.330	0.180	102	0.024	0.132	-0.237	0.285
Q5a	0.504	1.235	103	0.125	0.102	-0.076	0.327
Q5b	0.931	0.593	103	0.060	0.101	-0.141	0.261
Q5c	0.042	1.527	103	0.147	0.096	-0.044	0.339
Q6a	0.390	1.874	103	0.187	0.100	-0.011	0.385
Q6b	0.401	1.914	103	0.213	0.111	-0.008	0.433
Q6c	0.223	1.387	102	0.151	0.109	-0.065	0.367
Q7a	0.242	1.121	102	0.115	0.102	-0.088	0.318
Q7b	0.837	2.034	103	0.204	0.100	0.005	0.402
Q7c	0.400	1.919	102	0.219	0.114	-0.007	0.445
Q8a	0.098	1.315	102	0.159	0.121	-0.081	0.399
Q8b	0.000	2.002	103	0.185	0.093	0.002	0.369
Q8c	0.185	-1.300	103	-0.135	0.104	-0.340	0.071
Q8d	0.243	-0.378	103	-0.045	0.120	-0.284	0.193
Q9a	0.628	1.163	103	0.142	0.122	-0.100	0.384
Q9b	0.175	-0.099	97	-0.018	0.182	-0.379	0.343
Q9c	0.257	-0.467	100	-0.056	0.119	-0.292	0.181
Q10	0.030	-0.084	103	-0.016	0.194	-0.401	0.369
Q11	0.035	1.418	101	0.138	0.097	-0.055	0.331
Q13	0.063	0.730	103	0.127	0.174	-0.219	0.473
Q15	0.820	3.042	103	0.384	0.126	0.134	0.634
Q17	0.946	0.703	103	0.122	0.173	-0.222	0.465
Q19	0.589	2.480	103	0.353	0.142	0.071	0.635
Q21	0.110	2.737	103	0.375	0.137	0.103	0.646
Q23	0.707	2.871	103	0.455	0.158	0.141	0.769
Q25	0.627	1.865	103	0.231	0.124	-0.015	0.476
Q27	0.293	2.200	103	0.333	0.151	0.033	0.633
Q29	0.505	1.796	103	0.275	0.153	-0.029	0.578
Q31	0.549	0.222	103	0.029	0.131	-0.231	0.289

LOW VS HIGH SENIORITY						95% Confidence Interval of the Diff	
	Sig.	t	df	Mean Diff	Std. Error Diff	Lower	Upper
Q1a	0.756	-0.156	92	-0.020	0.127	-0.272	0.233
Q1b	0.083	-0.412	93	-0.054	0.130	-0.313	0.205
Q1c	0.231	0.679	93	0.104	0.153	-0.199	0.407
Q2a	0.542	0.299	94	0.030	0.101	-0.171	0.232
Q2b	0.600	-0.712	94	-0.100	0.140	-0.377	0.178
Q2c	0.113	0.118	94	0.016	0.135	-0.252	0.283
Q3a	0.588	-0.467	91	-0.079	0.169	-0.414	0.256
Q3b	0.202	0.585	94	0.065	0.111	-0.155	0.285
Q3c	0.125	0.713	94	0.072	0.101	-0.129	0.273
Q4a	0.051	-2.245	92	-0.268	0.120	-0.506	-0.031
Q4b	0.335	-0.671	94	-0.072	0.107	-0.286	0.141
Q4c	0.671	-0.721	93	-0.106	0.147	-0.398	0.186
Q5a	0.075	-1.435	94	-0.160	0.112	-0.382	0.061
Q5b	0.529	0.051	94	0.006	0.113	-0.218	0.229
Q5c	0.445	-0.133	94	-0.014	0.108	-0.230	0.201
Q6a	0.950	0.789	94	0.088	0.112	-0.133	0.309
Q6b	0.692	-0.011	94	-0.001	0.126	-0.251	0.248
Q6c	0.726	-0.249	93	-0.031	0.126	-0.281	0.219
Q7a	0.458	0.134	93	0.015	0.113	-0.210	0.240
Q7b	0.519	0.218	94	0.025	0.113	-0.199	0.248
Q7c	0.169	0.654	93	0.082	0.125	-0.166	0.329
Q8a	0.627	0.523	93	0.071	0.136	-0.198	0.340
Q8b	0.113	1.234	94	0.126	0.102	-0.076	0.328
Q8c	0.175	-1.512	94	-0.173	0.114	-0.400	0.054
Q8d	0.110	-1.769	94	-0.228	0.129	-0.484	0.028
Q9a	0.028	-1.012	94	-0.136	0.134	-0.402	0.130
Q9b	0.569	-0.061	88	-0.012	0.195	-0.399	0.376
Q9c	0.154	-1.045	91	-0.134	0.128	-0.389	0.121
Q10	0.110	0.372	94	0.079	0.213	-0.344	0.503
Q11	0.600	-0.304	92	-0.033	0.109	-0.250	0.184
Q13	0.287	0.222	94	0.043	0.195	-0.344	0.431
Q15	0.951	0.729	94	0.107	0.147	-0.184	0.398
Q17	0.990	-0.662	94	-0.127	0.192	-0.508	0.254
Q19	0.379	0.950	94	0.167	0.176	-0.183	0.517
Q21	0.374	0.944	94	0.147	0.156	-0.162	0.457
Q23	0.574	1.542	94	0.281	0.182	-0.081	0.644
Q25	0.543	0.766	94	0.105	0.138	-0.168	0.378
Q27	0.525	1.441	94	0.247	0.171	-0.093	0.587
Q29	0.773	1.168	94	0.202	0.173	-0.142	0.546
Q31	0.002	1.420	94	0.206	0.145	-0.082	0.495

WITH OR WITHOUT LICENCE						95% Confidence Interval of the Diff	
	Sig.	t	df	Mean Diff	Std. Error Diff	Lower	Upper
Q1a	0.287	1.225	99	0.145	0.118	-0.090	0.379
Q1b	0.999	-0.177	99	-0.021	0.120	-0.259	0.217
Q1c	0.302	0.400	99	0.056	0.141	-0.223	0.335
Q2a	0.021	1.160	100	0.104	0.090	-0.074	0.282
Q2b	0.199	1.093	100	0.139	0.127	-0.113	0.391
Q2c	0.924	1.305	100	0.162	0.124	-0.084	0.408
Q3a	0.926	0.352	98	0.054	0.155	-0.253	0.362
Q3b	0.006	1.533	100	0.153	0.100	-0.045	0.351
Q3c	0.013	1.208	100	0.111	0.092	-0.071	0.294
Q4a	0.553	-1.178	98	-0.138	0.117	-0.370	0.094
Q4b	0.931	-0.475	100	-0.049	0.102	-0.252	0.155
Q4c	0.249	0.676	99	0.089	0.131	-0.172	0.350
Q5a	0.344	0.178	100	0.019	0.104	-0.188	0.225
Q5b	0.926	0.652	100	0.067	0.103	-0.137	0.271
Q5c	0.966	0.213	100	0.021	0.098	-0.173	0.215
Q6a	0.247	-0.246	100	-0.025	0.104	-0.231	0.180
Q6b	0.802	0.739	100	0.086	0.116	-0.144	0.316
Q6c	0.959	0.280	99	0.032	0.115	-0.197	0.261
Q7a	0.227	0.872	99	0.091	0.104	-0.116	0.297
Q7b	0.695	2.308	100	0.234	0.101	0.033	0.435
Q7c	0.193	2.825	99	0.321	0.114	0.096	0.547
Q8a	0.204	0.558	99	0.070	0.126	-0.180	0.321
Q8b	0.388	1.143	100	0.111	0.097	-0.082	0.304
Q8c	0.093	-1.616	100	-0.169	0.105	-0.376	0.039
Q8d	0.409	0.614	100	0.074	0.121	-0.165	0.314
Q9a	0.506	-0.018	100	-0.002	0.125	-0.251	0.246
Q9b	0.111	1.015	94	0.183	0.180	-0.175	0.541
Q9c	0.175	-0.894	97	-0.105	0.118	-0.339	0.128
Q10	0.423	0.858	100	0.171	0.200	-0.225	0.567
Q11	0.031	1.384	99	0.136	0.099	-0.059	0.332
Q13	0.096	1.061	100	0.188	0.177	-0.163	0.538
Q15	0.996	2.292	100	0.301	0.131	0.040	0.561
Q17	0.951	0.758	100	0.134	0.177	-0.217	0.485
Q19	0.744	1.928	100	0.306	0.158	-0.009	0.620
Q21	0.283	1.633	100	0.234	0.143	-0.050	0.518
Q23	0.419	1.706	100	0.285	0.167	-0.046	0.616
Q25	0.499	1.639	100	0.204	0.124	-0.043	0.450
Q27	0.617	1.419	100	0.218	0.153	-0.087	0.522
Q29	0.710	1.521	100	0.236	0.155	-0.072	0.544
Q31	0.880	-0.018	100	-0.002	0.128	-0.256	0.251

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