

**MANAGERIAL ASSESSMENT OF EMPLOYEE FRAUD RISK FACTORS RELATING TO MISSTATEMENTS ARISING FROM MISAPPROPRIATION OF ASSETS:
A SURVEY OF ISE COMPANIES**

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Abstract

This paper aims at evaluating the importance of employee fraud risk factors relating to misstatements arising from misappropriation of assets. The same set of fraud risk factors that are provided in the appendices both to the International Standards on Auditing 240 and to Turkish Capital Market Board Communiqué on Auditing constitutes the main body of the questionnaire used in the study. Drawing on a survey of top-level executives of a sample of 70 Istanbul Stock Exchange listed companies, the results reveal that the most important risk factor group is “attitudes/rationalizations”, followed by “opportunities”. The results indicate the importance of well-structured corporate culture and effective internal controls against misappropriation of assets by employees.

Keywords: Independent Audit, Fraud Risk Factors, Asset Misappropriation, Attitudes/Rationalizations, Opportunities, Turkey,

1. INTRODUCTION

Management teams of companies are endowed with a responsibility to prepare financial statements that are free from material misstatements. A misstatement in financial statements is the result of either fraud or error. Error is an unintentional misstatement in financial statement whereas fraud is the intentional, deliberate act to obtain unjust advantage. It is those two types of fraud that are most relevant in the presentation of financial statements: misstatements resulting from (a) from fraudulent financial reporting, and (b) misappropriation of assets. Of these those two misstatement types, misappropriation of assets, which is the broad focus of this study, involves “the theft of an entity’s assets” (International Standards on Auditing-ISA- 240, para.11 and, Turkish Capital Market Board-TCMB- Communiqué, art.6/4).

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Arens, Elder and Beasley (2006:137-138) assert that fraudulent financial reporting is often called management fraud whereas misappropriation of assets is often called as employee fraud. As indicated by ISA 240 and TCMB Communiqué, though in relatively small and immaterial amounts, misappropriation of assets is “often” perpetrated by employees. This study, therefore, is an investigation of the extension of the consequences of agency problem. Agency problem arises as a result of conflict of interest between parties who are bonded together to fulfill a specified target. In our study, the agency problem emerges as the behavior of employees which is not in line with the profit-maximizing goal of company.

In terms of harm to the company earnings, employee asset misappropriation has the least monetary damage. But, as Parekh (2004) states, employee fraud is the most prevalent form of fraud categories and the greatest growth is seen in theft of assets and expense account abuse. Another study (Nesbitt, 2006) results indicated that 91,5 per cent of all fraudulent activities turns out to be asset misappropriation. As a matter of fact, it is not easy to detect fraud given that it is generally concealed. As Cottrell and Albrecht (1994) indicate, employee fraud is a crime that is almost never observed directly. When an employee commits a fraudulent act against his or her employer, there generally is no direct evidence that a crime has been committed; there are only symptoms, "red flags," or indicators of fraud.

Nevertheless, the number of events and conditions that indicate the likelihood of the existence of fraud is numerous. These types of events and conditions are called “fraud risk factors”. In several studies such as Wells (2001: 89) and Buckhoff (2002: 64), fraud risk factors are divided into those three groups: opportunity, pressure and rationalization. The regulative bodies adopted the same approach. ISA 240 and the TCMB Communiqué, “the Communiqué Pertaining to the Independent Audit Standards” provide possible fraud risk factors under the same groups. The target of this study, hence, is to assess the importance of employee fraud risk factors relating to misstatements arising from misappropriation of assets by drawing on the opinions of high-level executives of a sample of Istanbul Stock Exchange (ISE) listed companies. The framework of the study is depicted in Figure.1.

Insert Figure (1) about here

Existence of employee fraud might depend on a wide variety of factors such as business environment, financial needs of employees and inefficiencies in managerial control systems. By providing a ranked order of employee fraud risk factors, the results of this study are expected to aid the management teams in taking pre-emptive steps against the employee fraud by discovering and tackling with them. The rest of the paper is set out in the following way. The next section reviews the literature regarding employee fraud risk factors relating to misstatements arising from misappropriation of assets. The third section presents the methodology and the findings of the research. Discussions of the findings and conclusions are in the last section.

2. LITERATURE REVIEW

Though it is claimed that employee crime, including employee theft, has received little attention (Dickens et al., 1989: 332), researchers have long been interested in the topic of employee fraud. Long ago, for example, an article by Seidman (1939) reported that over two hundred million dollars a year was lost to industry through employee frauds. Again on the topic of employee fraud, June 1947 issue of The University of Chicago Law Review discussed a case of an employee of a jewellery manufacturing and jobbing corporation who collected over a period of four years ninety-three forged checks in the sum of \$61,646.22 by simply forging the signatures of the two officers authorized to sign checks. In fact, asset misappropriation by employees can emerge in a variety of ways. Lipman and McGraw (1988) put forward that employee theft comes in the forms of stealing money, goods, services, and information. Nesbitt (2006, 24) indicates that some of the simpler, often unrecognized forms of employee fraud include improper usage of telephone/Internet facilities; giving discounts or free goods to third parties; production of false orders; misappropriation of items such as stationery; and finally submitting false or inflated expense claims.

According to Lissy (1991) some of the most common types of employee fraud and theft are theft of inventory, submission of fictitious expenses, embezzlement of company funds and kickback schemes. As examples of employee fraud, both ISA 240 and TCMB Communiqué provide those same examples: (a) embezzling receipts, (b) stealing physical assets or intellectual property, (c) causing an entity to pay for goods and services not received, and (d) using an entity’s assets for personal use. The studies on the topic reveal astonishing figures on the extent of asset misappropriation by employees.

For example, a study analyzing 209 cases of fraud reported in the UK in 2003, found that whether a person is young or old, anyone with a motive can commit fraud (Business & Environment, 2004). Another study in 1980s of 12,000 employees at work indicated that an astonishing one-third of employees actually had stolen money or merchandise on the job (Wells, 2001:89). Employee fraud costs the UK £40m and some 1,500 employee fraudsters are dismissed each year (Nesbitt, 2006: 24). As reported in Bloomberg Businessweek (Anonymous, 2009), a survey of more than 125,000 employees in 75 countries over 2008 and 2009 uncovered startling trends in terms of a 20% increase in observations of employee misconduct from the first to the second half of 2008; a 5% decline in frontline employee perceptions of senior management's commitment to integrity and an increase in the number of disengaged employees from one in ten to one in five, causing declines in companywide productivity of up to 5%. As indicated by Parekh (2004), among 450 organizations that responded to a survey conducted in 2003, 75% reported being victim to incidents of fraud within their organization in the previous year-up from 62%. Similarly, Lipman and McGraw (1988) reported that in 1984 bank employees in the USA stole \$382 million, nine times more than bank robbers stole.

According to the authors, estimates of the cost of internal theft of all kinds in the USA range up to \$40 billion a year. Fraud and abuse cost the U.S. economy \$9 per day per employee (Zeune, 2000). Six percent of a typical U.S. company's annual revenues are lost to workplace theft and fraud, according to a July 2004 report by the Austin, Texas-based Association of Certified Fraud Examiners, a 30,000-member group dedicated to combating fraud and white-collar crime (Parekh, 2004). As indicated by Cottrell and Albrecht (1994), employee fraud does not leave detectable physical evidences and it is difficult to detect them since there are no readily clear symptoms. Anyhow, Cottrell and Albrecht (1994) categorized symptoms of employee fraud under those six headings: (1) accounting irregularities, (2) internal control weaknesses, (3) analytical anomalies, (4) lifestyle changes, and (6) tips or complaints. Haugen and Selin (1999, 341-344) reports poor internal controls, poor personnel policies and practices, poor examples of honesty at the top levels of an organization, revenge, overwhelming personal debt, and substance abuse as indicators of fraud. Indicating that employers are teaching their employees to steal, Zeune (2000) listed some fraud risk factors as follows: employees who are being downsized, who are bored and may steal for excitement, who make an honest mistake, who discover a hole in internal controls, who are under personal stress such as urgent cash needs, whose financial problems suddenly disappear, who are addicted and who thrive to be number one and who are thrill seekers.

As the literature review confirms, there are several sets of risk factors. Moreover, both the Appendix 1 to the ISA 240 and the Appendix 3 to the TCMB Communiqué provide the same set of risk factors under the same three sub-groups: (a) incentives/pressures, (b) opportunities, and (c) attitudes/rationalizations. This study will use these risk factor groups details of which will be provided in the next session. When it comes to the investigation of the case in Turkey, unfortunately there are just a limited number of studies on asset misappropriation. The literature review reveals that the topic seems to be handled in academic circles only in recent years. Of these studies, Ozbircikli and Suslu (2005) and Kiraci (2004) discussed the issues of fraud risk and misappropriation of assets from a theoretical perspective. In their survey study, Kula, Kaynar and Köylü (2006), drawing on a survey on 36 auditors from 12 audit companies, found that attitudes/rationalizations risk factor group is perceived as the most important risk factor group pertaining to asset misappropriation. The authors proposed the strong company culture as a prerequisite in preventing asset misappropriation.

3. RESEARCH METHODOLOGY AND SURVEY RESULTS

3.1. Survey Instrument

Based on the opinions of top-level executive managers obtained by a survey of manufacturing companies listed on Istanbul Stock Exchange (ISE), this study aims to reveal the importance ranking order, as perceived by the surveyed managers, of “employee fraud risk factors relating to misstatements arising from misappropriation of assets”. To obtain adequate quantitative information on the perceived ranked order of fraud risk factors, a survey questionnaire was constructed drawing upon the Appendix 1 to ISA 240 and Appendix 3 to the TCMB Communiqué. As the literature review confirms, there are several sets of risk factors. This study will use the risk factor examples that are reported both on the Appendix 1 to the ISA 240 and on the Appendix 3 to the TCMB Communiqué. The risk factor examples provided by the Appendix 3 to the TCMB Communiqué are the exact and verbatim translation of the risk factor examples in the Appendix 1 to ISA 240. The illustrative risk factors presented in both appendices are subdivided into three main groups: an incentive or pressure to commit fraud; a perceived opportunity to commit fraud; and an ability to rationalize the fraudulent action.

Table.1 provides the list of illustrative risk factors in exact order as provided in both appendices.

Insert Table (1) about here

In fact, the risk factors in both appendices are not all-inclusive, they are just examples. As stated in the Appendix 1 to ISA 240, not all of the examples provided in the appendix are relevant in all circumstances, and some may be of greater or lesser significance in different entities. As further stated in ISA 240 (Paragraph 50), the significance of fraud risk factors varies widely and the risk factors cannot easily be ranked in order of importance. Similarly, the Appendix 3 to the TCMB Communiqué reports the way the exemplary risk factors represented in the communiqué is not intended to indicate their level of significance and likelihood of their occurrence frequency. Hence, this study is an attempt to provide a ranking order, as perceived by the top level executive managers of ISE listed manufacturing companies, of the illustrative risk factors presented both in ISA 240 and TCMB Communiqué. The questionnaire consisted of all fraud risk factors in the same order as they appeared in both appendices. Questions were designed to measure managers' perceptions of the importance of each risk factor in terms of indicating the likelihood of employee fraud using five-point Likert-scales, i.e. 1=not important, 5=very important.

3.2. Sampling Frame and Sample Characteristics

The survey was conducted on the top-level executive managers of a sample of the manufacturing companies listed on the ISE. Only manufacturing companies were included in the sampling frame in order to ensure the consistency of the sample. A self-administered mail questionnaire was used to reach the sample firms located nationwide at low cost. The addresses of the companies listed on the ISE were retrieved on www.imkb.gov.tr and survey forms were posted to all 252 manufacturing companies on the ISE list, excluding service companies. Each questionnaire was addressed to the general manager of company, requesting him/her either to fill the questionnaire or to forward it to any other appropriate top-level manager of his/her choice. Questionnaire forms were received by 245 of 252 companies. 70 of the 245 companies completed and sent back the survey forms in return envelopes. The overall response rate was thus 28.6 per cent (70/245). Of the 70 respondents, 11 work as general manager, 16 as vice general manager, and 43 as senior executives.

3.3. Survey Results

Descriptive statistics values are computed for three factor groups and for each fraud risk factor covered by the questionnaire. As for the risk factor groups, as seen from Table.2, the risk factor group of "attitudes/rationalizations" has the highest mean value (3,92). The risk factor group of "opportunities" has a slightly lower mean value of 3,83. "Incentives/Pressures" is the risk factor group that has the lowest mean value (3,14).

Insert Table (2) about here

The comparative capacity of three risk factor groups in terms of their perceived potential to indicate the likelihood of the existence of fraud is illustrated in Figure.2, with a larger size meaning greater capacity.

Insert Figure (2) about here

The fact that "attitudes/rationalizations" risk factor group is evaluated as the most important risk factor group underlines the role of corporate culture in preventing fraudulent activities. In fact, an uncompromising approach toward asset protection in a company's business manner, policies, and daily transactions has considerable effect on behaviors of all employees. "Attitudes/Rationalizations" risk factor group seems to have a spill-over effect on the "opportunities" risk factor group in a sense that a type of organizational climate with tough emphasis on asset protection could be expected to prevent the emergence of asset misappropriation-leading opportunities.

The perceived importance of employee fraud risk factors, not as a group but on an individual basis this time, as indicators of misstatements arising from misappropriation of assets is reported in the following Table.3.

Insert Table (3) about here

As Table.3 presents, the risk factor perceived as the most important in indicating misappropriation of assets by employees is "an inadequate system of authorization and approval of transactions (mean 4,47). The other following highly important risk factors are "tolerance of petty theft" (mean 4,41), "inadequate record keeping with respect to assets" (mean 4,37), "lack of complete and timely reconciliations of assets" (mean 4,17), and "disregard for internal control over misappropriation of assets by overriding existing controls or by failing to correct known internal control deficiencies" (mean 4,16).

A striking finding of the study is the perceived potential harmful effects of computerized automation in resulting in misappropriation of assets. It is well recognized that inescapable increasing automation generates effectiveness in carrying out company transactions. But, “inadequate access controls over automated records, including controls over and review of computer systems event logs” (mean 3,99) and “inadequate management understanding of information technology, which enables information technology employees to perpetrate a misappropriation” (mean 3,76) are among the asset misappropriation leading risk factors. Surprisingly, factors that are perceived to have least the harmful potential of provoking employees to misappropriate assets are the factors that are specifically related to employee behaviors. In that regard, “recent or anticipated changes to employee compensation or benefit plans” (mean 2,81) is the least important risk factor. Other relatively less important factors which are all relevant to employee behaviors are “lack of mandatory vacations for employees performing key control functions” (mean 3,14), and “promotions, compensation, or other rewards inconsistent with expectations” (mean 3,16).

4. CONCLUSIONS AND DISCUSSIONS

This study has made an attempt to investigate the importance of fraud risk factors related to asset misappropriation. The same set of fraud risk factors presented in the appendices both to ISA 240 and TCMB Communiqué constituted the framework of the questionnaire used in the survey. Based on the evidence from a sample of 70 manufacturing companies listed on ISE, the highest ranked employee fraud risk factor group with the highest mean value was found to be “attitudes/rationalization” risk factor group. Based on the mean values, the second important risk factor group was “opportunities”. The lowest ranked group turned out to be “pressures/incentives” group. The study has also attempted to provide the ranked order of the individual fraud risk factors. The highest and the lowest ranked employee fraud risk factors together with their factor groups are provided in Table.4. As clear from the top part of the Table, the highest ranked individual risk factors are all from the “attitudes/rationalizations” and “opportunities” risk factor groups. There is not any factor from the “incentives/pressures” risk factor group at the top part of the Table.4. The bottom part of the table presents the risk factors with the lowest mean values. Four factors constituting “incentives/pressures” group are all placed towards the bottom of the list.

Insert Table (4) about here

The combined prominence of “attitudes/rationalizations” and “opportunities” risk factors reflects the crucial importance of a well-structured corporate culture and internal controls in preventing abuse of assets. An “attitudes/rationalization” factor of “tolerance of petty theft” is a succinctly stated factor referring to a problem-laden corporate culture. Moreover, the adjective of “inadequate”, which is the starting word of almost all factor statement at the top of the Table.4, points to the problems in the internal control systems. Included in the ineffective control system is the “inadequate access controls over automated records, including controls over and review of computer systems event logs”, too. These results imply a confirmation to the assertions by Parekh (2004) that managerial tools against fraud are organization’s internal controls, and computer controls. Buckhoff (2002: 64-65) offers those four procedures to strengthen the internal control system in preventing the employee fraud: proper authorization and segregation of duties, adequate documents and records, physical safeguards and independent checks of activities of employees by others. Computer fraud, specifically, presents an ever-changing landscape of opportunity for manipulation, especially for the unhappy but trusted employee with knowledge of computer technology. A problem facing most organizations is that computer knowledge is also required for the investigation and prosecution of computer fraud (Haugen and Selin, 1999: 342).

Similarly, support is provided to the claim by Bloomberg Businessweek (Anonymous, 2009) that when employees perceive a weak ethical culture, misconduct significantly rises. The key to corporate integrity and reduced misconduct is, as stated by Bloomberg Businessweek (2009), is "organizational justice", or the belief among employees that the company will not tolerate unethical behavior and that management will respond quickly and consistently to unethical behavior when it occurs. Additionally, as suggested by Business & Environment (2004) businesses train employees on company policy and procedures, especially codes of conduct and whistleblowing policies as well as urging companies to take action to implement effective controls. The “pressure/incentive” risk factors are all perceived as the least important risk factors. This result is in contradiction with a line of approach indicating, as reported by Parekh (2004), that employees commit fraudulent acts because of pressure to perform or because of economic pressures. The surveyed companies in the study, in fact, are all listed in ISE.

They typically represent a segment of companies that provide comparatively higher standards in Turkey in terms of working conditions and wage levels. Therefore, the “pressure/incentives” risk factors could be evaluated as more important for typical, non-listed companies that fail in providing their employees better monetary standards. The study has presented an exploratory research on the importance of employee fraud risk factors as indicators of fraud. To improve the understanding of the fraud risk factors, further research has to focus on a comparative survey that will take into account varying cultural and internal control characteristics. That would prove valuable in furthering our understanding of key cultural and control elements that have impact on fraudulent acts.

REFERENCES

Anonymous. (1947). Negotiable instruments. Forgery. Bank liable for fraud of depositor's employee, The University of Chicago Law Review, Vol. 14, No. 4, 705-709.

Anonymous. (2004). Steps to reduce employee fraud, Business & Environment, p.15.

Anonymous, (2009), Employee fraud and misconduct, Bloomberg Businessweek: http://www.businessweek.com/managing/content/jun2009/ca20090612_156983.htm (June 12, 2009).

Arens, A. A., Elder, R. J., & Beasley, M. S. (2006). Auditing and assurance services: an integrated approach. (11th edition). Pearson Printice Hall. (pp.799).

Buckhoff, A.T. (2002). Preventing employee frauds by minimizing opportunity. The CPA Journal, 64-65.

Cottrell D.M., & Albrecht W.S. (1994). Recognizing the symptoms of employee fraud, Healthcare Financial Management: Journal Of The Healthcare Financial Management Association, 0735-0732, Vol. 48, Issue 5

Dickens, W. T., Lawrence, F. K., Kevin, L., & Lawrence H. S. (1989). Employee crime and the monitoring puzzle. Journal of Labor Economics, Vol. 7, No. 3, 331-347.

Haugen, S., & Selin J. R. (1999). Identifying and controlling computer crime and employee fraud, Industrial Management & Data Systems, 99/8, 340-344.

Kiraci, M. (2004). Denetim sürecine etkileri bakımından hile riski değerlemesi. Muhasebe Bilim ve Dünya Dergisi, Cilt:6, Sayı: 4.

Kula, V., Kaynar, B., & Köylü K.M. (2006). Varlıkların kötüye kullanımı sonucu doğuran risk faktörlerinin bağımsız denetçilerce değerlendirilmesi. MÖDAV, Cilt:8, Sayı:4.

Lipman, M.,& McGraw, W. R. (1988). Employee theft: a \$40 billion industry. Annals of the American Academy of Political and Social Science, The Private Security Industry: Issues and Trends, Vol. 498, 51-59.

Lissy, W. (1947). Combating employee fraud and theft, Supervision, 00395854, May91, Vol. 52, Issue 5.

Nesbitt, F. (2006). Employee fraud, Credit Supplement, 24.

Ozbirecikli, M., & Süslü C. (2005). Bağımsız denetim firmalarının yolsuzluk riski faktörlerini değerlendirme uygulamaları ve türkiyedeki bağımsız denetim firmaları üzerine karşılaştırmalı bir araştırma- 1. Muhasebe ve Finansman Dergisi, Sayı:27.

Parekh, R. (2004). Fraud by employees on the rise, survey finds. Business Insurance, 00076864, Vol. 38, Issue 37.

Seidman, J. S. (1939). Catching up with employee frauds, The Accounting Review, Vol. 14, No. 4, Part I, 415-424.

Wells, J.T. (2001). Why employees commit fraud. Journal of Accountancy, February, 89-91.

Zeune, G. D. (2000). Are you teaching your employees to steal?. Strategic Finance, 1524833X, Vol. 82, Issue 2.

Figure.1: Classification of Fraud Risk Factors

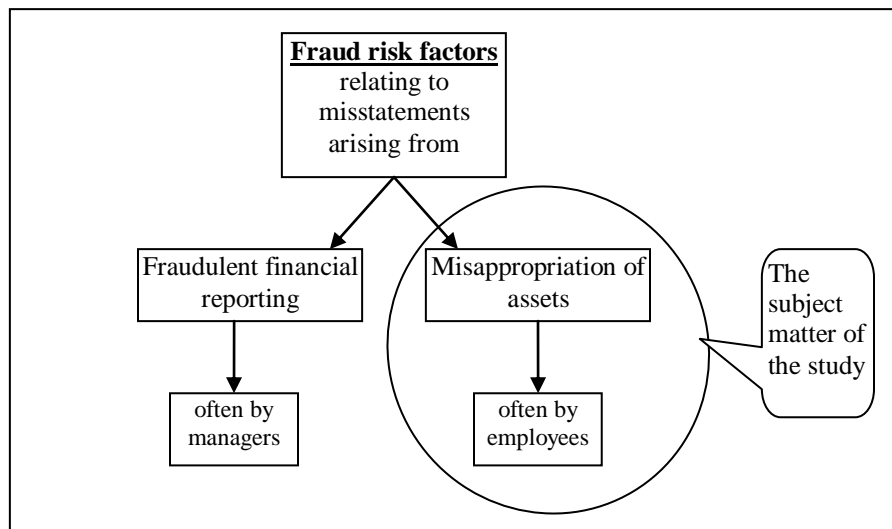


Figure.2: Employee Fraud Risk Factor Groups

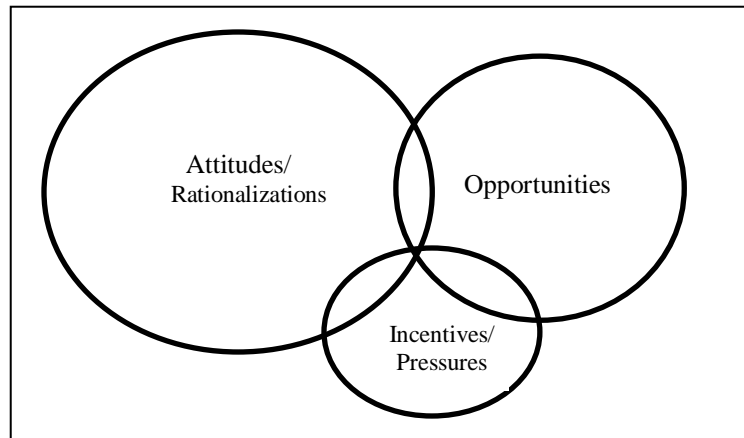


Table.1: Fraud Risk Factors Relating to Misstatements Arising From Misappropriation of Assets

(a) Incentives/Pressures
Personal financial obligations may create pressure on management or employees with access to cash or other assets susceptible to theft to misappropriate those assets.
Known or anticipated future employee layoffs.
Recent or anticipated changes to employee compensation or benefit plans.
Promotions, compensation, or other rewards inconsistent with expectations.
(b) Opportunities
Large amounts of cash on hand or processed.
Inventory items that are small in size, of high value, or in high demand.
Easily convertible assets, such as bearer bonds, diamonds, or computer chips.
Fixed assets which are small in size, marketable, or lacking observable identification of ownership.
Inadequate segregation of duties or independent checks.
Inadequate oversight of senior management expenditures, such as travel and other re-imbursments.
Inadequate management oversight of employees responsible for assets, for example, inadequate supervision or monitoring of remote locations.
Inadequate job applicant screening of employees with access to assets.
Inadequate record keeping with respect to assets.
Inadequate system of authorization and approval of transactions (for example, in purchasing).
Inadequate physical safeguards over cash, investments, inventory, or fixed assets.
Lack of complete and timely reconciliations of assets.
Lack of timely and appropriate documentation of transactions, for example, credits for merchandise returns.
Lack of mandatory vacations for employees performing key control functions.
Inadequate management understanding of information technology, which enables information technology employees to perpetrate a misappropriation.
Inadequate access controls over automated records, including controls over and review of computer systems event logs.
(c) Attitudes/Rationalizations
Disregard for the need for monitoring or reducing risks related to misappropriations of assets.
Disregard for internal control over misappropriation of assets by overriding existing controls or by failing to correct known internal control deficiencies.
Behavior indicating displeasure or dissatisfaction with the entity or its treatment of the employee.
Changes in behavior or lifestyle that may indicate assets have been misappropriated.
Tolerance of petty theft.

Source: Appendix 1 to IS 240 and Appendix 3 to TCMB Communiqué

Table.2: The Ranked Order of Employee Fraud Risk Factor Groups

Employee Fraud Risk Factor Groups as Indicators of Misstatements Arising From Misappropriation of Assets	Mode	Median	Mean	Std. Deviation
Attitudes/Rationalizations	3,81	4,00	3,92	,79155
Opportunities	3,80	3,84	3,83	,56593
Incentives/Pressures	3,00	3,00	3,14	,91046

The mean is the average on a scale of 1=not important, 5=very important

Table.3: The Ranked Order of Employee Fraud Risk Factors

Employee Fraud Risk Factors as Indicators of Misstatements Arising From Misappropriation of Assets	Median	Mean	Std. Deviation
Inadequate system of authorization and approval of transactions (for example, in purchasing).	5,00	4,47	,73665
Tolerance of petty theft.	5,00	4,41	1,05628
Inadequate record keeping with respect to assets.	5,00	4,37	,90364
Lack of complete and timely reconciliations of assets.	4,00	4,17	,85077
Disregard for internal control over misappropriation of assets by overriding existing controls or by failing to correct known internal control deficiencies.	4,00	4,16	,98739
Inadequate segregation of duties or independent checks.	4,00	4,06	,96137
Inadequate management oversight of employees responsible for assets, for example, inadequate supervision or monitoring of remote locations.	4,00	4,00	,88465
Lack of timely and appropriate documentation of transactions, for example, credits for merchandise returns.	4,00	4,00	,91683
Disregard for the need for monitoring or reducing risks related to misappropriations of assets.	4,00	3,99	,90878
Inadequate access controls over automated records, including controls over and review of computer systems event logs.	4,00	3,89	,89350
Inadequate physical safeguards over cash, investments, inventory, or fixed assets.	4,00	3,84	1,03049
Inadequate job applicant screening of employees with access to assets.	4,00	3,81	,88944
Changes in behavior or lifestyle that may indicate assets have been misappropriated.	4,00	3,76	1,01347
Inadequate management understanding of information technology, which enables information technology employees to perpetrate a misappropriation.	4,00	3,76	,93925
Fixed assets which are small in size, marketable, or lacking observable identification of ownership.	4,00	3,64	1,25150
Large amounts of cash on hand or processed.	4,00	3,63	1,28730
Inventory items that are small in size, of high value, or in high demand.	4,00	3,60	1,17214
Easily convertible assets, such as bearer bonds, diamonds, or computer chips.	4,00	3,56	1,29252
Personal financial obligations may create pressure on management or employees with access to cash or other assets susceptible to theft to misappropriate those assets.	3,00	3,40	1,06866
Inadequate oversight of senior management expenditures, such as travel and other re-imbursements.	3,00	3,31	,98603
Behavior indicating displeasure or dissatisfaction with the entity or its treatment of the employee.	3,00	3,29	1,02353
Known or anticipated future employee layoffs.	3,00	3,20	1,08481
Promotions, compensation, or other rewards inconsistent with expectations.	3,00	3,16	1,11167
Lack of mandatory vacations for employees performing key control functions.	3,00	3,14	1,06711
Recent or anticipated changes to employee compensation or benefit plans.	3,00	2,81	1,14579

The mean is the average on a scale of 1=not important, 5=very important

Table.4: The Highest and the Lowest Ranked Individual Fraud Risk Factors

Risk Factor Group	Individual Risk Factors Arising from Misstatements Arising from Misappropriation of Assets	Mean
Opportunities	Inadequate system of authorization and approval of transactions (for example, in purchasing).	4,47
Attitudes/ Rationalizations	Tolerance of petty theft.	4,41
Opportunities	Inadequate record keeping with respect to assets.	4,37
Opportunities	Lack of complete and timely reconciliations of assets.	4,17
Attitudes/ Rationalizations	Inadequate segregation of duties or independent checks.	4,16
Opportunities	Inadequate management oversight of employees responsible for assets, for example, inadequate supervision or monitoring of remote locations.	4,06
Opportunities	Lack of timely and appropriate documentation of transactions, for example, credits for merchandise returns.	4,00
Opportunities	Disregard for the need for monitoring or reducing risks related to misappropriations of assets.	4,00
Opportunities	Inadequate access controls over automated records, including controls over and review of computer systems event logs.	3,99
Opportunities	Inadequate segregation of duties or independent checks.	3,89
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Incentives/ Pressures	Personal financial obligations may create pressure on management or employees with access to cash or other assets susceptible to theft to misappropriate those assets.	3,40
Opportunities	Inadequate oversight of senior management expenditures, such as travel and other re-imbursments.	3,31
Attitudes/ Rationalizations	Behavior indicating displeasure or dissatisfaction with the entity or its treatment of the employee.	3,29
Incentives/ Pressures	Known or anticipated future employee layoffs.	3,20
Incentives/ Pressures	Promotions, compensation, or other rewards inconsistent with expectations.	3,16
Opportunities	Lack of mandatory vacations for employees performing key control functions.	3,14
Incentives/ Pressures	Recent or anticipated changes to employee compensation or benefit plans.	2,81

The mean is the average on a scale of 1=not important, 5=very important