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# Organization Frauds in Thailand: A Survey on Risk Factors

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## Abstract

*Fraud has been a critical issue in the businesses around the world, including Thailand for many years and fraud cases are increasing year on year. The fraud survey conducted by KPMG Forensic in Thailand in 2005 and 2007 indicated that fraud risk was a major concern for businesses in Thailand. Hence, if the management or the firm owners are made aware of the fraud risk factors, they can deter fraudulent in their organization. This research, therefore, attempts to identify the risk factors causing fraudulent activities in the organization in Thailand and validate that corporate governance and internal control can help reduce fraud risk. The tools used in this research are direct interviews and a questionnaire containing checklist of fraud risk factors. The interviews were conducted with 30 non-listed companies in Bangkok to identify fraud risk factors. The interview results were used to revalidate the questionnaire before it was sent out to 1,065 companies, which contained listed companies in the Stock Exchange of Market in Thailand and non-listed companies in Bangkok. The survey results show that the risk factors faced in other countries are also faced in Thailand but are ranked in different order of importance. The results also indicate that corporate governance and internal control can prevent fraudulent activities in the organization up to a certain level.*

Key Words: Fraud; Fraud deterrence; Risk factors; Corporate governance; Internal control.

## Introduction

Fraud has been a critical issue in the businesses around the world including Thailand for many years and fraud cases are increasing year on year. However, it is difficult to measure the real cost of frauds in the organization due to insufficient information since the victim

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organization may not report it. The other reason is perpetrators may have concealed their activities through a series of complex transactions (Digabriele, 2008).

Fraud is defined in many scholars and dictionaries. Singleton, Singleton, Bologna, and Lindquist (2006) defines fraud as: “*intentional deception, lying, and cheating are the opposites of truth, fairness, and equity. Fraud consists of coercing people to act against their own best interests*” (p. 3). Hopwood, Leiner and Young (2009, p.33) opines: “*Fraud (false pretense) involves intentional and material misrepresentation of one or more material facts with the intent of taking of property from a victim. The misrepresentation must be more than mere sales hyperbole.*” Albrecht (2003) defined fraud as “*a representation about a material fact which is false and intentionally or recklessly so, which is believed and acted upon by the victim, to the victim’s damage*” (cited in Ramaswamy, 2007, p. 34). American heritage dictionary (second college edition) defined fraud as “*a deception deliberately practiced in order to secure unfair or unlawful gain*” (cited in Jans, Lybaert, & Vanhoof, 2009, p. 3). Black’s law dictionary describes fraud as “*the intentional use of deceit, a trick or some dishonest means to deprive another of his/her/its money, property or a legal right*” (Martin & Cendrowaki, 2008, p. 14).

KPMG Forensic in Thailand conducted the fraud survey in 2005 and 2007 and it appeared that fraud risk was a major concern for businesses in Thailand (KPMG, 2007). The estimated financial loss in case of fraud detected in Thailand from 2005 to 2007 is shown in Table 1. While the percentage of fraud less than a million baht came down, fraud above a million Baht (Thailand Currency) went up. The survey also indicated that the fraud issues found in Thailand were also faced by other countries. Furthermore, half of the survey respondents expected that fraud cases would increase in the next 2 years (KMPG, 2007).

Table 1: Estimated financial losses in cases of fraud detected in Thailand

Amount	2005	2007
Baht 10 million and above	11%	16%
Baht 5 million to less than 10 million	5%	8%
Baht 1 million to less than 5 million	15%	18%
Baht 100,000 to less than 1 million	31%	27%
Less than Baht 100,000	38%	31%

Source: Adapted from KMPG, 2007, p.8

After the economic crisis in 1997, Thailand, like some countries, had established policy and issued regulations to detect internal frauds in Thailand, e.g. Thai Standards Auditing (TSA) No. 240, the 1992 Securities and Exchange Act of Thailand, section 107 and Code of Governance. However, most of these regulations are to detect the frauds, which have already occurred in the businesses resulting in loss or damages as shown in Table 1. Management of the firms usually knows what the weak internal controls of the company are and some will use this weak internal control to commit frauds. Therefore, it is important for the business owner to know the fraud risk factors so that they can prevent frauds in the organization.

As such, risk management is required to identify risk factors, assess the risk to measure the likelihood and the impact for such risk and determine the treatment strategy to

eliminate such risk as well as monitor the risk incidents. By doing so, the guidelines of enterprise risk management integrated framework (COSO) should be considered, as it is a good guideline for assessing the risk (The Committee of Sponsoring Organizations of the Treadway Commission, 2004). The Association of Certified Fraud Examiners presented the fraud risk factors, in the 2008 Report to the Nation on Occupational Fraud and Abuse. Certified Fraud Examiners gathered these risk factors from the fraud cases from all countries. However, it is more important to know the fraud risk factors relevant to Thailand so that firm owners and management know what they are and are aware of the situation that could lead to fraud cases.

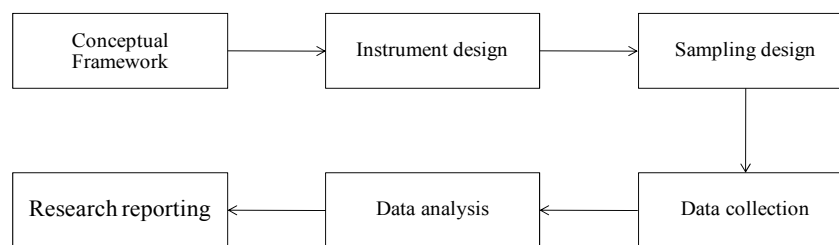
This paper attempts to identify risk factors causing fraudulent activities in the organization in Thailand. It will also validate that corporate governance and internal control help reduce fraud risk in the organization (Securities and Exchange Commission of Thailand, 2009 and The Senate and the House of Representatives of the United States of America, 2002). The qualitative research will identify the risk factors for fraudulent activities from 30 non-listed companies in Bangkok. The quantitative research will select the total of 565 listed companies in Thailand and 500 non-listed companies in Bangkok for the comparison of difference of fraud risk factors between these 2 types of companies.

### Methods and Research design

Qualitative research was carried out with the 30 non-listed companies in Bangkok, which were selected using snowball method. The qualitative research was used to identify the fraud risk factors in details from the selected samples using the in depth interview. The face-to-face interview provided the researchers with more information based on their opinions, emotions and behaviors. The quantitative research was also conducted with the samples of 565 companies from the total listed companies in the Stock Exchange of Market in Thailand and 500 non-listed companies in Bangkok. These companies were selected using Krejcie and Morgan method and simple random sampling technique.

Research design for risk factors for frauds within the organization in Thailand is shown in Figure 1.

Figure 1: Research design for risk factors for fraudulent within the organization in Thailand



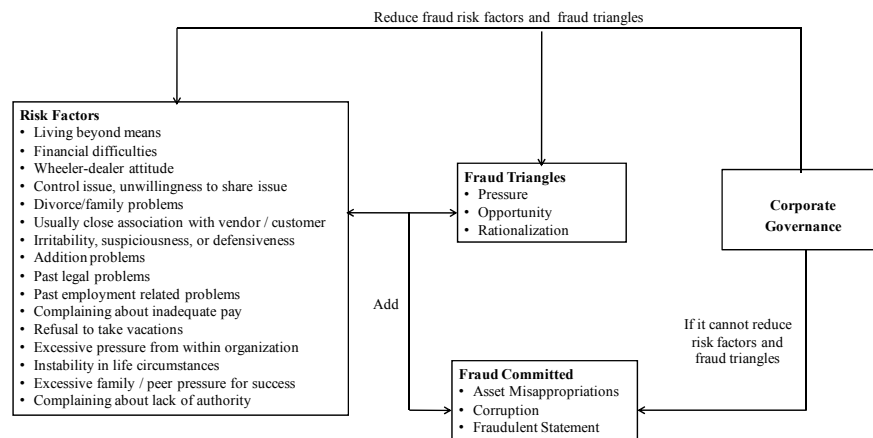
In phase 1, the background and literature consisting of fraud risk factors were reviewed. The conceptual framework was built as shown in Figure 2. The following Hypotheses were tested. *Corporate governance can reduce fraudulent in the organization. Internal control can reduce fraudulent in the organization.* In phase 2, samples for qualitative research were collected from 30 companies in Bangkok using snowball. In-depth interviews were conducted to identify fraud risk factors for fraudulent activities in organization. Also in phase 2, the total

population of 565 listed companies in Stock Exchange of Market was selected for the study of the risk factors for fraudulent activities in the organization. 500 companies registered in Bangkok were selected as a sample group using Krejcie and Morgan method and simple random sampling technique. A checklist of fraud risk factors was sent out to the sample group to complete. In phase 3, data analysis was performed to identify the risk factors for fraudulent in the firms in Thailand. Induction method was used to analyze the textual data received from participants to generate categories and explanations. The identified risk factors were used as input for the design of the fraud deterrence system.

### Conceptual framework

The framework used in this research to identify the risk factors for fraudulent within the organization in Thailand is shown in Figure 2.

Figure 2: Conceptual framework for risk factors for fraudulent in the organization in Thailand



### Variables

#### Independent Variables

- *Risk factors*, which are personal behaviors that may lead to fraudulent activities are reported by the Association of certified fraud examiners.
- *Fraud triangle*, which consists of pressure, rationalization and opportunity. If these three components are matched, fraud will occur.
- *Corporate governance*, which is an important factor for reducing the fraudulent activities. If it is not good, fraud may occur.

#### Dependent variables

*Fraud committed*. In the event that risk factor and fraud triangle are matched, fraud is likely to be committed. However, if the corporate governance is well established, it makes the occurrence of fraudulent activities more difficult. Variables for this research and their references are shown in Table 2.

Table 2: Variables and references

Variables	References
Corporate governance	Chen, Fifth, Gao and Rui, 2006 Zhang, 2007
Fraud committed	Report to the Nation on occupational fraud & abuse, 1966, 2002, 2004, 2006, 2008, 2010 Casabona and Grego, 2003 Chamock, 2009 Chen, Huang and Kuo, 2009 Coenen, 2008 Digabriele, 2008 Holtfreter, 2005 Hopwood, Leiner and Young, 2009 Jans, Lybaert and Vanhoof, 2009 KPMG, 2007 Latshaw and Tobin, 2003 Martin, 2003 Martin and Cendrowaki, 2008 Nussim and Tabbach, 2009 Ramamoorti, 2008 Ramaswamy, 2007 Singleton et al., 2006 Wilhelm, 2004 Zahra, Priem and Rasheed, 2007
Fraud Triangle	Casabona and Grego, 2003 Cendrowski, Martin and Petro, 2007 Singleton et al., 2006
Risk factor	Report to the Nation on occupational fraud & abuse, 2008 Coenen, 2008 Martin and Cendrowaki, 2008 Singleton et al., 2006 Spratt, 2009

**Reliability test**

The reliability test was performed for questionnaires using Cronbachs' alpha coefficient with SPSS program. The result of the reliability test (shown in Table 3) for the importance level of each risk factor contributing to fraudulent is 0.878, which is at an acceptable level.

Table 3: Reliability test

Cronbach's Alpha	N of Items
.878	18

### Data collection

For the qualitative research, in-depth interviews were conducted with 30 companies in Bangkok to identify fraud risk factors for fraudulent activities in an organization. For the quantitative research, Mr. Pornchai Tavaranon, Deputy Director of Corporate Governance, Stock Exchange of Market sent the email with questionnaire to 565 listed companies in Thailand. The questionnaire was sent via e-mail to additional selected 500 companies in Bangkok. 52.52% of the response came from non-listed company. Please refer to the response rate shown in Table 4.

Table 4: Response rate

	Frequency	Valid Percent
Listed company	236	47.48
Non-listed company	261	52.52
Total	497	100.00

### Results of Qualitative research

Attempts were made to select participants from various industries. Of 30 participants, majority of the participants (70%) worked in non-services industries, 30% was from services industries.

#### a) Risk factors causing fraudulent activities within the organization

When asked about the risk factors causing fraudulent activities in the organization, participants stated that living beyond means was the most important factor causing fraudulent activities. Pressure was also identified as one of the risk factors. Pressure could come from want of more money because of relatives and or him/herself. Lack of proper internal control and good system to operate the business were also identified. Close relationship between employee and suppliers or customers or management of the company might also lead to fraud cases. Borrowing money from coworkers and gambling are also identified as risk factors causing fraudulent activities in Thailand. Lastly, lack of accounting and financial knowledge on the part of management was another factor contributing to frauds as many of the employees are more knowledgeable in the area and hence commit fraud without being caught by management.

#### b) Type of fraud

When asked how many fraud types there are in the organization and asked to rank them in order based on the damages it can cause to the firm, participants stated that close relationship with either suppliers or customers would easily lead to fraud cases. Apart from that, overuse/misuse of company assets was the most popular fraud activity. Most employees used company asset e.g. stationery, photocopier, office supplies for personal use. In doing so, employees believed it was normal and they had a right to do so. Moreover, claiming for reimbursement higher than actual expenses by an employee was a regular case of corporate fraud that occurred everywhere around the world. In addition, accounting creation was an important issue that management or entrepreneurs should focus. Many fraudulent statement cases were done by professionals who had good knowledge of accounting practices and standards and had authority to access the system in the company.

They made changes to the financial information, creating inaccurate financial performance of the company to the outsiders who used the information from the company financial statement for their investment. Accounting manipulation has a high negative impact to the company.

***c) Relationship between risk factors and type of fraud***

When asked if there is a direct relationship/correlation between risk factors causing frauds in the organization and the fraud type, all participants stated that risk factors causing fraudulent activities have relationship with the type of fraud because fraud will occur when fraudster has an opportunity, pressure and rationalization to commit fraud. For example, an employee may take cash from the customer, use it for personal use, and refund it with the money received from the next customer. They can do it if situation and opportunity allow them to do so. Therefore, proper internal control must be in place in order to disallow an opportunity for fraud to take place.

***d) Internal control and fraud reduction within the organization***

When asked if internal control policy can reduce frauds in the organization and whether additional tool for fraud deterrence is needed in the organization, 100% of the participants stated that proper internal control in the organization could reduce the fraudulent activities, because, fraudster might be afraid of lawsuit or punishment from the company. In addition, with proper internal control, there will be less opportunity for them to commit fraud in the organization.

***e) Corporate governance and fraud reduction within the organization***

When asked if corporate governance can reduce frauds in the organization, and whether an additional tool for fraud deterrence in the organization is needed, all the participants opined that corporate governance could reduce fraudulent activities within the organization. Even if participants of the qualitative research did not work in the listed companies, they knew that corporate governance would ensure transparency of the financial information for the investors for the listed companies. Most of participants were investors in the stock exchange of market; therefore, they believe it could reduce frauds in the organizations. They also stated that audit committee and internal audit of the company could prevent or detect fraud cases in the organization.

***f) Need for Fraud deterrence system***

When asked what type of tool for fraud deterrence in the organization that they need, all the participants confirmed that they needed a fraud deterrence tool. However, 80% of them had no knowledge of the type of fraud deterrence tool to prevent fraud in the organization. They just wanted a tool to prevent fraud while 20% of participants clearly stated that they needed an expert system for fraud prevention in the organization.

**Results of Quantitative research**

Attempts were made to select participants from various industries. Of 497 participants, majority of the participants (66.80%) worked in non services industries, and 33.20% were from services industries.

**1. Risk factors causing fraudulent activities in the organization**

Risk factors causing fraudulent activities in the organization based on participants' responses are shown in Table 5.

Table 5: Risk factors causing fraudulent activities in the organization

Risk Factors	%	Mean	S.D.
Living beyond means	100.00	4.52	0.704
Financial difficulties	98.19	4.51	0.687
Wheeler-dealer attitude	97.59	4.12	0.958
Irritability, suspiciousness, or defensiveness	94.97	3.89	0.984
Unusually close association with vendor/customer	94.57	3.66	0.904
Past legal problems	92.96	3.33	1.296
Addiction problems	91.75	3.18	1.080
Complaining about inadequate pay	87.32	3.24	1.028
Past employment-related problems	86.52	3.07	1.131
Instability in life circumstances	86.12	2.90	0.962
Excessive pressure from within organization	83.90	3.10	1.185
Excessive family/peer pressure for success	82.90	3.01	0.970
Refusal to take vacations	82.29	2.85	1.398
Borrow money from coworkers	81.29	3.45	0.935
Control issues, unwillingness to share duties	75.05	2.81	1.064
Complaining about lack of authority	63.18	2.46	1.049
Divorce/family problems	61.17	1.97	0.893
Gambling	4.61	4.73	0.456

The following are top ten risk factors causing frauds in the organizations.

- Living beyond means
- Financial difficulties
- Wheeler-dealer attitude
- Irritability, suspiciousness, or defensiveness
- Unusually close association with vendor/customer
- Past legal problems
- Addiction problems
- Complaining about inadequate pay
- Past employment-related problems
- Instability in life circumstances

The bottom three risk factors causing fraudulent activities are as follows:

- Complaining about lack of authority

- Divorce/family problems
- Gambling

## 2. Corporate governance - an impact on each risk factor

The hypothesis to test the corporate governance with an impact on each risk factor and type of fraud are as follows:

### a. Corporate governance - an impact on each risk factor in case of asset misappropriation

$H_0$ : Corporate governance did not have an impact on each risk factor in case of asset misappropriation.

$H_1$ : Corporate governance had an impact on each risk factor in case of asset misappropriation.

If significant value from the analysis by one-way ANOVA with higher value than 0.05 alpha, then  $H_0$  is acceptable. This means that corporate governance has no impact on each risk factor in case of asset misappropriation.

If  $H_1$  is acceptable, corporate governance will have an impact on asset misappropriation.

The risk factors, which can and cannot be controlled by corporate governance in case of asset misappropriation, are shown in Table 6.

Table 6: Corporate governance - an impact on each risk factor in case of asset misappropriation

Risk factors	Mean	S.D.	Fraud (%)		CG can control
			Decrease	Not decrease	
Living beyond means	2.37	0.68	84.51	3.22	√
Financial difficulties	2.49	0.76	83.90	3.22	
Borrow money from coworkers	2.40	0.82	61.17	2.62	
Wheeler-dealer attitude	2.31	0.91	85.31	2.62	
Control issues, unwillingness to share duties	2.40	0.71	40.24	0.80	
Divorce/family problems	2.40	0.85	15.90	-	
Unusually close association with vendor/customer	2.11	0.70	76.26	1.41	√
Irritability, suspiciousness, or defensiveness	2.36	0.68	76.86	2.01	√
Addiction problems	2.18	0.88	59.76	2.01	
Past legal problems	2.27	0.73	72.43	1.41	
Past employment-related problems	2.43	0.78	56.94	1.81	
Complaining about inadequate pay	2.26	0.77	65.79	2.62	
Refusal to take vacations	2.12	0.55	48.29	0.80	√
Excessive pressure from within organization	2.02	0.73	49.09	1.41	
Instability in life circumstances	1.63	0.66	58.75	1.41	
Excessive family/peer pressure for success	1.91	0.79	52.31	0.80	√
Complaining about lack of authority	1.79	0.46	23.54	0.80	

*b. Corporate governance - an impact on each risk factor in case of corruption*

H<sub>0</sub>: Corporate governance did not have an impact on each risk factor in case of corruption.

H<sub>1</sub>: Corporate governance had an impact on each risk factor in case of corruption.

If significant value from the analysis by one-way ANOVA with higher value than 0.05 alpha, then H<sub>0</sub> is acceptable. This means that corporate governance has no impact on each risk factor in case of corruption.

If H<sub>1</sub> is acceptable, corporate governance will have an impact on corruption.

The risk factors, which can and cannot be controlled by corporate governance in case of corruption, are shown in Table 7.

*Table 7: Corporate governance - an impact on each risk factor in case of corruption*

Risk factors	Mean	S.D.	Fraud (%)		CG can control
			Decrease	Not decrease	
Living beyond means	2.20	0.79	84.51	3.22	
Financial difficulties	2.04	0.76	83.90	3.22	
Borrow money from coworkers	1.82	0.59	61.17	2.62	
Wheeler-dealer attitude	1.92	0.59	85.31	2.62	
Control issues, unwillingness to share duties	2.07	0.77	40.24	0.80	
Divorce/family problems	1.67	0.53	15.90	-	
Unusually close association with vendor/customer	2.46	0.83	76.26	1.41	
Irritability, suspiciousness, or defensiveness	2.11	0.71	76.86	2.01	
Addiction problems	1.87	0.61	59.76	2.01	√
Past legal problems	2.21	0.73	72.43	1.41	
Past employment-related problems	2.08	0.68	56.94	1.81	√
Complaining about inadequate pay	2.03	0.59	65.79	2.62	√
Refusal to take vacations	1.97	0.75	48.29	0.80	
Excessive pressure from within organization	2.06	0.67	49.09	1.41	
Instability in life circumstances	1.84	0.83	58.75	1.41	√
Excessive family/peer pressure for success	1.76	0.85	52.31	0.80	
Complaining about lack of authority	2.57	0.77	23.54	0.80	

*c. Corporate governance - an impact on each risk factor in case of fraudulent statements*

H<sub>0</sub>: Corporate governance did not have an impact on each risk factor in case of fraudulent statements.

H<sub>1</sub>: Corporate governance had an impact on each risk factor in case of fraudulent statements.

If significant value from the analysis by one-way ANOVA with higher value than 0.05 alpha, then H<sub>0</sub> is acceptable. This means that corporate governance has no impact on each risk factor in case of fraudulent statements.

If H<sub>1</sub> is acceptable, corporate governance will have an impact on fraudulent statements.

The risk factors, which can and cannot be controlled by corporate governance in case of fraudulent statements, are shown in Table 8.

Table 8: Corporate governance - an impact on each risk factor in case of fraudulent statements

Risk factors	Mean	S.D.	Fraud (%)		CG can control
			Decrease	Not decrease	
Living beyond means	1.66	0.93	84.51	3.22	√
Financial difficulties	1.58	0.83	83.90	3.22	√
Borrow money from coworkers	1.36	0.74	61.17	2.62	√
Wheeler-dealer attitude	1.75	0.93	85.31	2.62	√
Control issues, unwillingness to share duties	1.52	0.87	40.24	0.80	
Divorce/family problems	1.13	0.50	15.90	-	
Unusually close association with vendor/customer	1.68	0.81	76.26	1.41	
Irritability, suspiciousness, or defensiveness	1.52	0.59	76.86	2.01	√
Addiction problems	1.48	0.82	59.76	2.01	
Past legal problems	1.25	0.56	72.43	1.41	
Past employment-related problems	1.24	0.54	56.94	1.81	
Complaining about inadequate pay	1.30	0.70	65.79	2.62	
Refusal to take vacations	1.75	0.82	48.29	0.80	√
Excessive pressure from within organization	1.73	0.96	49.09	1.41	
Instability in life circumstances	1.45	0.76	58.75	1.41	
Excessive family/peer pressure for success	1.53	0.87	52.31	0.80	
Complaining about lack of authority	1.12	0.48	23.54	0.80	

### 3. Internal control – an impact on each risk factor

The hypothesis to test the internal control with an impact on each risk factor and type of fraud are as follows:

#### a. Internal control - an impact on each risk factor in case of asset misappropriation

$H_0$ : Internal control did not have an impact on each risk factor in case of asset misappropriation.

$H_1$ : Internal control had an impact on each risk factor in case of asset misappropriation.

If significant value from the analysis by one-way ANOVA with higher value than 0.05 alpha, then  $H_0$  is acceptable. This means that internal control has no impact on each risk factor in case of asset misappropriation.

If  $H_1$  is acceptable, internal control will have an impact on asset misappropriation.

The risk factors, which can and cannot be controlled by internal control in case of asset misappropriation are shown in Table 9.

Table 9: Internal control - an impact on each risk factor in case of asset misappropriation

Risk factors	Mean	S.D.	Fraud (%)		IC can control
			Decrease	Not decrease	
Living beyond means	2.37	0.68	83.10	2.62	√
Financial difficulties	2.49	0.76	82.49	2.62	√
Borrow money from coworkers	2.40	0.82	61.17	1.41	√
Wheeler-dealer attitude	2.31	0.91	83.90	2.01	
Control issues, unwillingness to share duties	2.40	0.71	38.43	1.41	√
Divorce/family problems	2.40	0.85	15.29	-	
Unusually close association with vendor/customer	2.11	0.70	74.25	2.01	
Irritability, suspiciousness, or defensiveness	2.36	0.68	76.06	1.41	
Addiction problems	2.18	0.88	57.95	2.01	
Past legal problems	2.27	0.73	71.03	1.41	
Past employment-related problems	2.43	0.78	54.93	1.41	
Complaining about inadequate pay	2.26	0.77	65.19	2.01	
Refusal to take vacations	2.12	0.55	45.88	1.41	√
Excessive pressure from within organization	2.02	0.73	48.49	0.80	√
Instability in life circumstances	1.63	0.66	56.94	1.41	
Excessive family/peer pressure for success	1.91	0.79	51.11	0.80	√
Complaining about lack of authority	1.79	0.46	22.13	1.41	

b. Internal control - an impact on each risk factor in case of corruption

$H_0$ : Internal control did not have an impact on each risk factor in case of corruption.

$H_1$ : Internal control had an impact on each risk factor in case of corruption.

If significant value from the analysis by one-way ANOVA with higher value than 0.05 alpha, then  $H_0$  is acceptable. This means that internal control has no impact on each risk factor in case of corruption.

If  $H_1$  is acceptable, internal control will have an impact on corruption.

The risk factors, which can and cannot be controlled by internal control in case of corruption, are shown in Table 10.

Table 10: Internal control - an impact on each risk factor in case of corruption

Risk factors	Mean	S.D.	Fraud (%)		IC can control
			Decrease	Not decrease	
Living beyond means	2.20	0.79	83.10	2.62	
Financial difficulties	2.04	0.76	82.49	2.62	√
Borrow money from coworkers	1.82	0.59	61.17	1.41	√
Wheeler-dealer attitude	1.92	0.59	83.90	2.01	
Control issues, unwillingness to share duties	2.07	0.77	38.43	1.41	
Divorce/family problems	1.67	0.53	15.29	-	
Unusually close association with vendor/customer	2.46	0.83	74.25	2.01	√
Irritability, suspiciousness, or defensiveness	2.11	0.71	76.06	1.41	
Addiction problems	1.87	0.61	57.95	2.01	
Past legal problems	2.21	0.73	71.03	1.41	√
Past employment-related problems	2.08	0.68	54.93	1.41	
Complaining about inadequate pay	2.03	0.59	65.19	2.01	√
Refusal to take vacations	1.97	0.75	45.88	1.41	
Excessive pressure from within organization	2.06	0.67	48.49	0.80	
Instability in life circumstances	1.84	0.83	56.94	1.41	√
Excessive family/peer pressure for success	1.76	0.85	51.11	0.80	
Complaining about lack of authority	2.57	0.77	22.13	1.41	

c. Internal control - an impact on each risk factor in case of fraudulent statements

$H_0$ : Internal control did not have an impact on each risk factor in case of fraudulent statements

$H_1$ : Internal control had an impact on each risk factor in case of fraudulent statements

If significant value from the analysis by one-way ANOVA with higher value than 0.05 alpha, then  $H_0$  is acceptable. This means that internal control has no impact on each risk factor in case of fraudulent statements.

If  $H_1$  is acceptable, internal control will have an impact on fraudulent statements

The risk factors, which can and cannot be controlled by internal control in case of fraudulent statements, are shown in Table 11.

Table 11: Internal control - an impact on each risk factor in case of fraudulent statements

Risk factors	Mean	S.D.	Fraud (%)		IC can control
			Decrease	Not decrease	
Living beyond means	1.66	0.93	83.10	2.62	√
Financial difficulties	1.58	0.83	82.49	2.62	
Borrow money from coworkers	1.36	0.74	61.17	1.41	
Wheeler-dealer attitude	1.75	0.93	83.90	2.01	
Control issues, unwillingness to share duties	1.52	0.87	38.43	1.41	
Divorce/family problems	1.13	0.50	15.29	-	
Unusually close association with vendor/customer	1.68	0.81	74.25	2.01	
Irritability, suspiciousness, or defensiveness	1.52	0.59	76.06	1.41	
Addiction problems	1.48	0.82	57.95	2.01	
Past legal problems	1.25	0.56	71.03	1.41	
Past employment-related problems	1.24	0.54	54.93	1.41	
Complaining about inadequate pay	1.30	0.70	65.19	2.01	
Refusal to take vacations	1.75	0.82	45.88	1.41	
Excessive pressure from within organization	1.73	0.96	48.49	0.80	
Instability in life circumstances	1.45	0.76	56.94	1.41	
Excessive family/peer pressure for success	1.53	0.87	51.11	0.80	
Complaining about lack of authority	1.12	0.48	22.13	1.41	

#### 4. Fraud behaviors

Participants from listed company identified the fraud behaviors in the organizations. They are use of company's assets for personal purposes, corruption-using position, procurement fraud, destroys checking system and others, for e.g. issuing invoice with no customers. Participants from non-listed company identified similar behaviors, but in different order. The behaviors identified by non-listed company are, corruption from position, procurement fraud, destroy checking system and use company's assets for personal purposes.

#### 5. Action to be taken for fraud incident

If a fraud is committed in the organization, 97.46% of the listed company will take action based on company's rules and regulation, 75.42% will take legal action, 1.27% will do nothing because they want to protect the image of the company and 3.81% will take other actions, for example, asking the employee to return the assets to the company. 90.28% of non-listed company will follow company's rules and regulations, 70.33% will take legal action and 19.95% will take other actions, which include returning the assets to the company, deducting salary and bonus and no promotion.

#### 6. Requirement of fraud deterrence system

63.56% of listed companies needed a fraud deterrence system and 36.44% did not need it because they believe that good governance and internal control were sufficient for fraud prevention in the organization. Apart from that, they thought that no tool could prevent

fraud. 69.82% of non-listed companies needed a fraud deterrence system and 30.18% did not need it because they thought that internal control was sufficient for fraud prevention.

### 7. Summary of risk factors controlled by corporate governance and internal control

Risk factors, which can be controlled by either corporate governance or internal control resulting in the fraud reduction, are shown in Table 12.

Table 12: Summary of risk factor controlled by corporate governance and internal control

Risk factors for fraud committed	Corporate governance			Internal control		
	Asset misappropriation	Corruption	Fraudulent statements	Asset misappropriation	Corruption	Fraudulent statements
Living beyond means	√		√	√		
Financial difficulties			√	√	√	
Borrow money from coworkers			√	√	√	
Wheeler-dealer attitude			√			√
Control issues, unwillingness to share duties				√		
Divorce/family problems						
Unusually close association with vendor/customer	√				√	
Irritability, suspiciousness, or defensiveness	√		√			
Addiction problems		√				
Past legal problems					√	
Past employment-related problems		√				
Complaining about inadequate pay		√			√	
Refusal to take vacations	√		√	√		
Excessive pressure from within organization				√		
Instability in life circumstances		√			√	
Excessive family/peer pressure for success	√			√		
Complaining about lack of authority						

From the Table 12, it appeared that corporate governance and internal control cannot control all kind of risk factors causing fraudulent activities in the organization. Therefore, a tool is needed to prevent the fraudulent activities. Since risk factors listed in the questionnaire seemed to cause fraudulent activities in the organization, they can be used as an input to develop a fraud deterrence model.

### Discussion and Conclusion

In this paper, Fraud risk factors in Thailand were identified and it is found that the risk factors had relationship with type of fraud because fraud will occur when fraudster has an opportunity, pressure and rationalization to do the fraud. The results from the qualitative and quantitative researches indicate that living beyond means, financial difficulties and wheeler-dealer attitude are important factors causing fraudulent activities. Irritability, suspiciousness, or defensiveness and unusually close association with vendor and customer or customer or management of the company may also lead to frauds. While divorce/family problems are ranked as the top among the six risk factors causing fraudulent activities in

other countries, it is less important in Thailand due to different culture. However, the survey participants identify “borrow money from co-workers and gambling” as another risk factor for fraudulent activities in Thailand.

Survey results also indicate that risk factors causing frauds and type of fraud are similar to what survey participants face within their organizations. Hence, fraud risk factors from the research can be used to develop the fraud deterrence model. Apart from that, the business owners can use them to be the criteria for risk management in the company. The survey results further indicate that corporate governance and internal control can prevent fraudulent activities in the organization at a certain level but cannot control all kinds of risk factors causing fraudulent activities. Therefore, a tool to deter the fraudulent activities in the organization is required.

In-depth interviews as well as quantitative research should be further conducted with large sample size from various industries. Further studies can be carried out to investigate how corporate governance and internal control can reduce frauds in the organizations and measurement should be put in place. The findings of this survey can be also used as a guide for non-listed firms to prevent frauds in the organizations.

### **Limitations of the Survey**

Nearly 70% of participants for this quantitative research were secretary, human resources and administration. Hence, there is a possibility that they may not be clear on the fraudulent statements, resulting in low impact level. In addition, samples were selected from Bangkok only. Fraud risk factor and type of fraud might be better identified using samples from different demographics and backgrounds.

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