



THE RELEVANCE OF FRAUD DIAMOND THEORY IN DETERMINING EMPLOYEE FRAUDS IN PUBLIC SECTOR ENTITIES IN SRI LANKA

Gamlath Mohottige Mudith Sujeewa 

Management & Science University, Malaysia
mudith@kln.ac.lk

Mohd Shukri Ab Yajid

Management and Science University, Malaysia
mshukri123@gmail.com

Ali Khatibi

Management and Science University, Malaysia
alik@msu.edu.my

S. M. Ferdous Azam

Management and Science University, Malaysia
drferdous@msu.edu.my

Abstract

The purpose of the study is to identify the determinants of employee frauds in public sector entities in Sri Lanka. The study employed the elements of fraud diamond theory, opportunity, pressure, rationalization and capability as independent variables and employee fraud occurrence as dependent variable. The data is collected from Government Accountants working for public sector entities in Sri Lanka and it was analyzed through structural equation modeling with AMOS 18 statistical software. It is found that opportunity and pressure is statistically significant in determining employee frauds in public sector entities in Sri Lanka. As such, it is recommended to design and implement sound internal control and governance framework in

public sector entities in Sri Lanka in order to combat against employee fraud. This paper aims at broadening knowledge of top level management of public entities, policy makers, auditors, forensic accountants, regulators and other stakeholders on combating employee frauds in public sector entities in Sri Lanka.

Keywords: Employee fraud, opportunity, pressure, rationalization, capability

INTRODUCTION

Technological advancements and the continual evolution of the global business environment provide both enhanced tools and additional challenges for perpetration and concealment as well as the prevention, detection and investigation of employee fraud. Increasingly external auditors and forensic accountants are being asked to play an important role in helping organizations prevent and detect employee fraud. Detecting employee fraud is not an easy task and requires thorough knowledge about the nature of fraud, how it can be committed and concealed (ACFE, Report to Nations, 2018).

Many companies expect more return from its employees to maximize its scarce resources for wealth maximization of organizations. It also contributes to an employee ability to rationalize the behaviour even if that employee realizes that the behaviour is about to engage in unethical, illegal or fraudulent, ultimately leading to occupational frauds in organizations (Kassem and Higson, 2012). The Association of Certified Fraud Examiners (ACFE) estimated that 5% of business revenue is lost due to fraud and fraudulent behaviour lasts a median of 18 months before being discovered. The total loss caused by the cases estimated to \$ 6.3 billion, with an average loss of case \$ 2.7 million. Furthermore, most discoveries occur more by whistle-blowers tips than pre design internal control systems providing evidence that 39.1% of fraudulent activities are discovered by employee tips (Report to the Nation, 2018).

The nature of fraud means that much of its cost is hidden. Because concealment is an intrinsic component of most fraud schemes, some frauds are never uncovered; further, of the cases that are detected, many are never measured or reported. In addition, most frauds carry substantial indirect costs, including lost productivity, reputational damage and the related loss of business, as well as the costs associated with investigation and remediation of the issues that allowed them to occur. The result is the equivalent of a financial iceberg; some of the direct losses are plainly visible, but there is a huge mass of hidden harm that we cannot see (Report to Nations, ACFE, 2016).

Employee fraud continues to be a significant problem for businesses of all sizes. The generally accepted definition of employee fraud is “Employee fraud is defined as the use of

one's occupation for personal enrichment through the deliberate misuse or misapplication of the organization's resources or assets (Fraud Examiner's Manual, 2016). It can negatively influence the capital markets as a consequence of losing the investors' confidence, and can irrevocably damage the company's reputation. Other major implications include significant losses of shareholders values due to abnormal stock price decline, delisting from stock exchange, and material assets sales upon fraud discovery etc.

The survey (Report to Nations, 2018) estimated that the typical organization loses 5% of revenues in a given year as a result of fraud. The total loss caused by the cases in the study exceeded \$6.3 billion, with an average loss per case of \$2.7 million. The median loss for all cases in the study was \$150,000, with 23.2% of cases causing losses of \$1 million or more. Asset misappropriation was by far the most common form of occupational fraud, occurring in more than 83% of cases, but causing the smallest median loss of \$125,000. Financial statement fraud was on the other end of the spectrum, occurring in less than 10% of cases but causing a median loss of \$975,000. Corruption cases fell in the middle, with 35.4% of cases and a median loss of \$200,000 (Report to Nations, 2018).

Therefore it is important to investigate empirically the determinants of employee frauds in public sector entities in Sri Lanka. In summary, the identified problem is to investigate empirically the determinants of employee frauds in public sector entities in Sri Lanka. Accordingly, main objectives of the study is to investigate the determinants of employee frauds in public sector entities in Sri Lanka. The study formulated three research hypotheses as:

H1: There is a significant effect of pressure on employee fraud occurrence

H2: There is a significant effect of opportunity on employee fraud occurrence

H3: There is a significant effect of rationalization on employee fraud occurrence

H4: There is a significant effect of capability on employee fraud occurrence

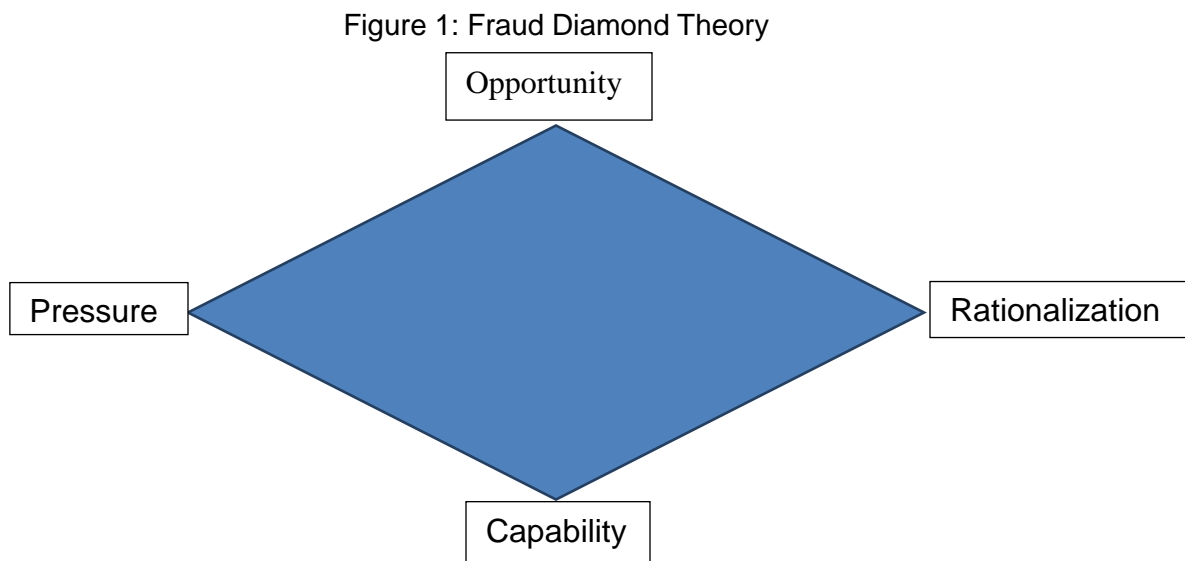
LITERATURE REVIEW

The literature review systematically categorizes the fraud diamond theory and its usefulness on identifying determinants of employee frauds and to provide the necessary substance for the overall research findings.

Fraud Diamond Theory

Wolfe and Hermonson (2004) argued in their research that perceived pressure or incentive might exist along with an opportunity and a rationalization to commit fraud, fraud is unlikely to take place unless the fourth element is present; capability (capacity). In other words, potential perpetrators must have the skills and ability to actually commit a fraud. Hence, Wolfe and

Hermonson (2004) in their study, added additional variable; Capability to the conventional fraud triangle developed by Cressey in 1973. Figure 1 below presents the complete set of elements of fraud diamond theory.



The authors believe that the fraud triangle could be enhanced to improve both fraud prevention and detection by considering a fourth element. In addition to addressing pressure, opportunity and rationalization, the researchers four sided “fraud diamond” also considers as an individual’s capability; personal traits and abilities that play a major role in whether fraud may actually occur even with the presence of the other three elements.

Pressure

Pressure, as illustrated by Cressey Donald in 1953, is the incentive that could motivate an individual to be involved in fraud. The pressure could result from personal problems, such as financial pressures or addiction pressures, or from the work environment. Management or other employees may find themselves offered incentives or placed under pressure to commit fraud. For example, remuneration or advancement is significantly affected by individual, divisional, or company performance, individuals may have an incentive to manipulate results or to put pressure on others to do so. Pressure may also come from the unrealistic expectations of investors, banks, or other sources of finance (Gupta, 2015).

Opportunity

Pressure creates the motive for the crime to be committed, but the employee must also perceive that he has an opportunity to commit the crime without being caught. This Perceived opportunity constitutes the second element. In Cressy's view, there are two components of the perceived opportunity to commit a trust violation; general information and technical skill. General information is simply the knowledge that the employee's position of trust could be violated. Technical skills refer to the abilities needed to commit the violation. These are usually the same abilities that the employees need to have in order to obtain and keep his position in the first place.

Rationalization

The third factor in the fraud triangle is the rationalization. Cressey pointed out that rationalization is not an *ex post facto* means of justifying a theft that has already occurred. Significantly, rationalization is a necessary component of the crime before it takes place; in fact, it is the part of the motivation for the crime. Because embezzler does not view himself as criminal, he must justify his misdeeds before he ever commits them. The rationalization is necessary so that the perpetrator, can make his illegal behaviour understandable to himself and maintain his concept of himself as a trusted person.

Capability

A person's position or function within a company may give him or her the ability to create or exploit an opportunity for fraud not available to the others. According to Wolfe and Hermonson (2004) fraudster also has the necessary traits and abilities to be the right person to pull it off and that this person has recognised this particular fraud opportunity and can turn it into reality. Wolfe and Hermonson identified important observable traits related to individuals' capacity to commit fraud. Those threats include; (a) authoritative position or function within the organization (b) intelligence to exploit the accounting and internal control system (c) ego and confidence (d) capability to effectively deal with stress.

Abdullahi et al., (2015), noticed that many of the world's most prominent organizations have experienced large-scale frauds. These frauds have had disturbing effects on the world's economy in addition to contributing unnecessary suffering and increased unemployment for the low and middle class. With the aim of further understanding the fundamental motivations of fraud, this paper takes an in-depth look at the convergent and divergent of two classical fraud theories which are: (i) fraud triangle theory; and (ii) fraud diamond theory. This

comparison is important to assist anti-graft bodies and organizations in formulating a practical strategy to prevent and investigate organizational frauds. The discussion of the two theories contributes to the understanding of frauds especially by forensic accountants, auditors, fraud examiners and other anti-fraud bodies. The study also serves as guidance for further fraud related research.

Employee frauds have become a common problem in Sri Lankan context too causing catastrophic consequences to businesses as well as to the economy of the country which is evident by few recent corporate failures. In 2014 high court ordered the winding up of Touchwood Investments PLC following the crisis prevalent in the company and its inability to service the dues owed to the investors. One of the main reasons lead to this situation by Touchwood Investments PLC was the manipulation of financial statements in valuing its plantations in accordance with the International Accounting Standard (IAS) 41: Agriculture. The company auditors KPMG, Ford Rhodes, Thornton and Co., qualified the audit opinion; on the ground that the discount rate used (12%) was too low and did not reflect the long term risk free rate and the premium for other risk factors thus resulting an overstatement of biological assets.

The collapse of the Golden Key Credit Card Company also signal a systemic collapse of some large finance companies as well as banks and could be the impetus for the global financial crisis to spill into Sri Lanka in 2008 which was due to the frauds and carries on a finance business in contravention of the provisions of the Finance Act No.78 of 1988. These financial scandals urge the necessity of tools for detecting possible financial statement frauds in the companies.

Furthermore, the KPMG fraud study for Sri Lanka (2011 / 2012) revealed that 83% of respondents accept that incidents of fraud have increased in Sri Lanka, while 62% maintained that the fraud within their respective industries had increased in the same period. On the other hand, only 51% accepted that the fraud had increased in their own organizations. In turn, it was identified that 70% of respondents agreed to have the fraud within their organizations, out of which 64% were from private sector and 89% from government sector.

In addition to that EY fraud study (2015) found that 91% of employees say bribery and corruption happens widely in Sri Lanka and 62% attribute the increase in corruption to tough economic times and increased competition. Further, it exposed that offering entertainment (36%) is considered justified in aiding business and 44% think it's acceptable to amend financial reports to provide more positive outlook of results. 46% say there has

been no change in their companies' effort to combat fraud, bribery and corruption over the last two years.

Accordingly, with the aim of understanding the fundamental motives of employee fraud, this exploratory study portraits the employee fraud determinants in public sector entities in Sri Lanka.

METHODOLOGY

This study employed a mailed survey as a method of data collection. The mail questionnaire method allows for confidentiality, which encourage frankness and is widely used in auditing research. The survey method is particularly appropriate in these circumstances since it is designed with the intention of operationalizing definitions of concepts that reflects the strength of attitudes, perceptions, views and opinions. The respondents of this survey are Government Accountants from public sector entities in Sri Lanka. The sample of Government Accountant is taken from the list of Government Accountants with the Sri Lanka Accountant Service as of 31 December 2019. A simple random technique is applied to construct the sample. A total of 265 Government Accountants responded with usable questionnaires, representing a 31 per cent response rate. It is employed Structural Equation Modelling along with regression analysis to analyze data and AMOS 18 statistical software is used (Siregra et al., 2015; Shafer et al., 2016).

ANALYSIS AND RESULTS

Structural Equation Modelling (SEM) is an extension of the general linear model (GLM) that enables to test a set of regression equations simultaneously. SEM can test traditional models, but it also permits examination of more complex relationships and models, such as confirmatory factor analysis. Confirmatory factor analysis investigates the loading of each factor to assess whether they are above the required threshold levels. Thus, it is observed that all items scored factor loading more than 0.5, remained in the model and the iteration limit of the model is 50.

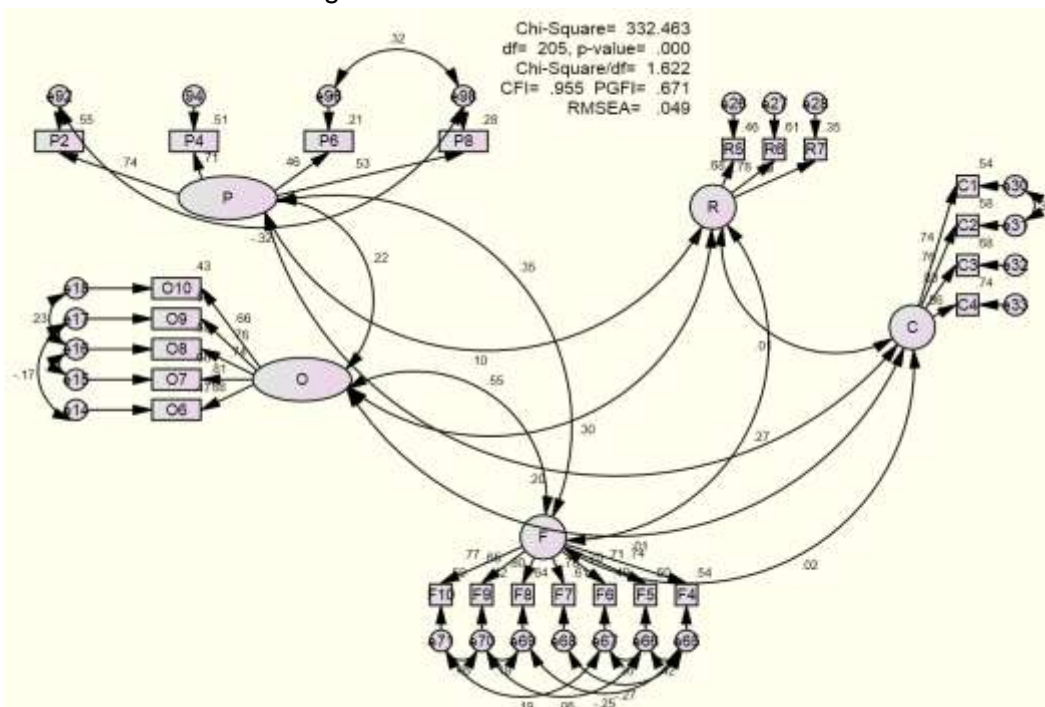
Measurement model analysis involves assessing the Goodness of Fit (GOF) indices of the model. These model fit indices of the initial model are presented in table 1 and it provides four absolute fit indices; chi-square significance, Relative chi-square, Root Mean Square Error of Approximation (RMSEA). Incremental fit indices include the Comparative Fit Index (CFI). Further, the table provides Parsimonious Goodness of Fit Index (PGFI) and (PNFI) which are a measure of the parsimony fit. Threshold values of each index are compared with the actual values provided by the model. Accordingly, it can be noted that all the indices are satisfied with the measurement model. Model fit indices of the final measurement model are presented in table 1.

Table 1: Model fit indices of the Final Measurement Model

Indices	Cut-off values	Final model values	Decision
Absolute Fit Indices			
Relative χ^2 (χ^2/df)	<5.00	1.622	Satisfied
RMSEA	<0.08	0.049	Satisfied
Incremental Fit Indices			
CFI	>0.9	0.955	Satisfied
Parsimony Fit Indices			
PGFI	>0.5	0.671	Satisfied
PNFI	>0.5	0.722	Satisfied

According to the model, all the criteria are satisfied except chi-square. However, the chi-square of the model is significant (p -value <0.05). The p -value is sensitive to the sample size and usually, it becomes significant for samples exceeding 250 items (Hair, Black, Babin, Anderson, & Tatham, (2007). Since the current study contains a sample of 265 items, it could expect that chi-square is not satisfied. Thus the final measurement model confirms that it is fitted with the data as shown in figure 2.

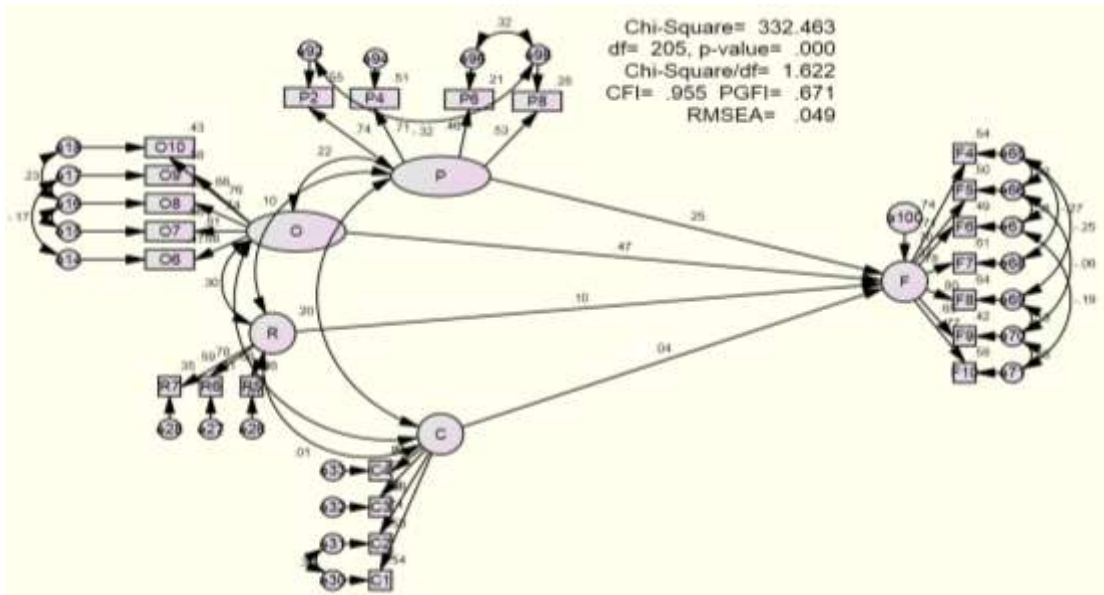
Figure 2: Final Measurement Model



Structural Model

The measurement model for the variables of the study; pressure, opportunity, rationalization, capability and occurrence of employee fraud is developed using AMOS 18 statistical software. In order to test the hypothesis of the study, a structural model for the regression analysis is developed as shown in figure 3.

Figure 3: Structural Model



Hypothesis Testing

The study has three hypotheses for the direct effect of independent variables into the Employee Fraud. Each hypothesis constructed and it is tested using the results of the regression analysis shown in table 2.

Table 2: Regression Results

Independent variable	Estimate	S.E	CR	P-Value
Pressure	0.305	0.089	3.429	0.000
Opportunity	0.562	0.094	5.980	0.000
Rationalization	0.101	0.067	1.490	0.136
Capability	0.064	0.106	0.601	0.548

As per table 2, the p-value of the pressure lies below the significance level of 0.05 suggesting the influence of pressure on employee fraud occurrence is significant. Accordingly, hypothesis 1

of the study is accepted. As such, the p-value of the opportunity lies below the significance level of 0.05 suggesting the influence of opportunity on employee fraud occurrence is significant. Accordingly, hypothesis 2 of the study is accepted. However, the p-value of the rationalization lies above the significance level of 0.05 suggesting the influence of rationalization on employee fraud occurrence is not significant. Accordingly, hypothesis 3 of the study is rejected. Moreover, the p-value of the capability lies above the significance level of 0.05 suggesting that the influence of capability on employee fraud occurrence is not significant. Accordingly, hypothesis 4 of the study is rejected.

CONCLUSION, POLICY IMPLICATIONS AND FUTURE RESEARCH

Employee frauds and manipulations have become a common problem in the today's business context causing catastrophic consequences to businesses as well as to the economy of a country. Detecting employee fraud is very complex and challenging task and requires sound knowledge about the nature of fraud, why it is committed and concealed. Given this complexity, the current study tried to investigate the applicability of Fraud Diamond Theory in Determining Employee Frauds in Public Sector Entities in Sri Lanka. This models employs four variables pressure, opportunity rationalization and capability as determinates of employee frauds.

For the current study, 265 Government Accountants working in public sector entities in Sri Lanka are used as respondents. Results suggested that, Pressure and Opportunity is statistically significant in determining employee frauds in public sector entities in Sri Lanka. However, rationalization and capability is not significant in determining employee frauds in public sector entities in Sri Lanka. Further, It is recommended to strengthen the control and governance mechanism to avoid opportunities and making pressure situations to commit employee frauds in public sector entities in Sri Lanka.

Further, it is suggested to increase sample size considering other employees as respondents in public and private sector business entities in Sri lanka for future research.

REFERENCES

- Abdullahi, R., Mansor, N.,Nuhu M.S. (2015). Fraud Triangle Theory and Fraud Diamond Theory: Understanding the Convergent and Divergent for Future Research, *European Journal of Business and Management*, (Online) Vol.7, No.28.
- Association of Certified Fraud Examiners, (2018), Report to Nations, United State of America.
- Association of Certified Fraud Examiners, (2016), Report to Nations, United State of America.
- ACFE, (2016), *Fraud Examiners Manual*, Association of Certified Fraud Examiners, Austin, TX.
- Cressey, D.R. (1953). *Other Peoples' Money*, Montclair, Glencoe: Free Press.
- Cressey, D.R. (1973). *Other Peoples' Money: A study in the social psychology of embezzlement*. Glencoe: Free Press.

EY, (2015), Fraud Survey 2015. Sri Lanka: EY Forensic.

Gupta, P.K.G.S., (2015), Corporate frauds in India – Perceptions and emerging issues, Journal of Financial Crime, Vol. 22 Iss 1 pp. 79-103.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2007), Multivariate Data Analysis, Upper Saddle River, NJ: Prentice hall.

Kassem, R.,Higson, A. (2012). The New Fraud Triangle Model, Journal of Emerging Trends in Economics and Management Sciences (JETEMS), Vol. 3, No. 3, pp.191-195.

KPMG, (2012), Fraud Survey 2012. Sri Lanka: KPMG Forensic.

Shafer, W.E., Simmons, R. S., Yip, R.W.Y., (2016), Social responsibility, professional commitment and tax fraud, Accounting, Auditing & Accountability Journal, Vol. 29 Issue: 1, pp.111-134.

Siregar, S.V. & Tenoyo B., (2015), Fraud Awareness Survey of Private Sector in Indonesia, Journal of Financial Crime, Vol. 22, Issue:3, pp. 329-346

Wolfe, D.T. & Hermonson D.R. (2004). The Fraud Diamond: Considering the Four Elements of Frauds, The CPA Journal, ProQuest Central.