

## Key Drivers in Enhancing Fraud Awareness: A Survey of Practitioners

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**Abstract:** This research aims to examine the relationships among several key factors in creating a sense of fraud awareness among practitioners. Relevant literature shows that there are several factors that can help in creating fraud awareness among practitioners. 193 out of 200 questionnaires returned representing 96.5% of the response rate. The unit of analysis is practitioner in the Malaysian companies. Structural equation modelling (SEM) was used to analyse the collected data. The findings show that integrity mediates the relationship between forensic accounting and fraud awareness

**Key words:** Fraud awareness, forensic accounting, training, job position, integrity

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### INTRODUCTION

**Background of study:** Fraud awareness among practitioners has been a major concern in today's world, mostly for big companies. The Practitioners in this study are defined to include not only auditor and accountants who are familiar with the company's financial statements, but also the management as a whole (from the lower to higher level of management). The researchers of the company's accountant and auditor is brought under security in the event of accounting scandal. The level of reliance by users on financial statement is reduced when users question the quality of the company's financial statement. According to Cheung *et al.* (2010), a good quality of financial reporting will have four characteristics of relevance, reliability, comparability and understandability. So, in preparing a financial statement, it is expected that both practitioners and wider stakeholder groups may look out for these four characteristics. A good sense of fraud awareness among practitioners (accountants and management) may raise the consciousness of financial statement preparers towards ensuring faithful adherence to those four qualitative characteristics in every company. Absent of this concern for fraud awareness, the practitioner (accountant and management) may not ethically follow the procedures in preparing the company's financial statement. It needs be said that in lumping auditors with accountants and management as practitioners, a distinction should be made in their role in financial reporting. It is the responsibility of management of whom is accountant to prepare financial statements. The role of the audit process

(external auditor) is to add credibility to management's financial statements which allows users (owners, investors, bankers, other creditors and government) to use them with greater confidence. The auditor expresses his/her assurance on the financial statements in an auditor's report. This distinction is necessary to separate the audit process from management process in the financial reporting chain.

One thing that becomes the concern not only to the accountant but also to the managing director of a company is the company's sustainability. Financial statement can be said as a heart of a company which means from disclosing and analysing the company's financial statement, we can already know the future of the company. So, what happens in these days is lack of having fraud awareness which may lead to a fraudulent financial statement. However, fraud usually happens when there are no other way to do to ensure the sustainability of the business. Fraud means that someone is altering the figure in the financial statements of a company to show that the company is having a good financial position. Accounting as a magic is one of the accounting theory that can be referred or has a relationship with fraudulent financial statements. The other theory that will be used in conducting this study is theory of fraud triangle. Theory of fraud triangle will explain the elements that motivate the fraud perpetrator to commit fraud. Recall the three elements that come together in fraud activity are perceived pressure, perceived opportunity and perceived rationalization. In the Auditing Standards Board of the (AICPA), fraud and its characteristics are described as: "Fraud is a broad legal

concept and auditors do not make legal determinations of whether fraud has occurred. Rather, the auditor's interest specifically relates to acts that result in a material misstatement of the financial statements. The primary factor that distinguishes fraud from error is whether the underlying action that results in the misstatement of the financial statements is intentional or unintentional. For purposes of the Statement, fraud is an intentional act that results in a material misstatement in financial statements that are the subject of an audit".

Fraudulent financial reporting need not be the result of a grand plan or conspiracy. It may be that management representatives rationalize the appropriateness of a material misstatement, for example, as an aggressive rather than indefensible interpretation of complex accounting rules or as a temporary misstatement of financial statements including interim statement, expected to be corrected later when operational results improve.

There are many ways to enhance the level of fraud awareness among practitioner. One of it is by possessing forensic accounting background. Forensic accounting focus more on fraud awareness and fraudulent financial statement. However the forensic accounting not only help practitioner to detect any misrepresentation on the face of financial statement but at the same time discusses the motivation of fraud activity and how to fight fraud. Rezaee and Kedia argues that the knowledge of not only forensic accounting but also corporate governance is a must to be obtained by students nowadays so that in future he or she is much aware with any unethical activities.

A fraud case is the second element that can improve the level of fraud awareness among practitioner. By having some experience with fraudulent activity especially when involving the preparation of fictitious financial statement, practitioner is now more aware with the cause and effect engaging with fraud activity. From here, the level of fraud awareness can be increase and the practitioner nowadays become more familiar with what being called as unethical activity and avoid from engaging with it.

Prevention usually is better than cure. Same goes to fraud activity. It is better if at the first place, practitioner can smell and detect any fraudulent activity inside the company and prevent it from become more serious. A company usually will send the workers to attend training and in this training they will be exposed to common fraud activity that always happen in a company. This training also will help to build level of confidence among workers in reporting any fraud activity when it occurs.

**Motivation of study:** Every company will appoint two different auditor with two different scope of audit which are; internal auditor and external auditor. Both of the auditors will review the financial statement prepared by

the company and from the reviewing, auditor need to detect any misrepresentation of that financial statement. Eventhough there is a committee being established to look after the company's financial statement, still accounting scandal happen and still until now the main reason of why fraudulent financial statement happen cannot be detected. Accounting as a magic is one of the accounting theory that is familiar among accountant. Not only a magician can play with tricks to blind up our eyes, but accounting also is a figure trickery that can comes out with a nice, clean and amazing numbers. Company that having a financially distressed usually will hire this kind of magician to help them in generating a fraudulent financial statement. Fraudulent financial statements can give bad effect to the company's image. In addition, Klimaitiene and Grundiene, also discuss that is important for a company to detect any financial frauds happening in their company as soon as possible to avoid receiving bad perceptions from society.

A well-known companies with high reputation will always try to disclose a profitable financial statement. They don't want to expose their losses. If they fail to come out with a good income statement and balance sheet, they may face a lots of trouble. One of these troubles could be the investors where due to bad income statement and balance sheet they may stop invest in that particular company. Of course reducing the numbers of investors lead to the reduction of sources of funds for that company. Management will try their best to avoid from issuing a hunky punky financial statement. In reality, this action can be categorized as an unethical activity but in business world who care. As long as the business can sustain in a certain market for thousand years, unethical activity can be wave into ethical practicing activity.

One of the big visions of every company is to satisfy customers and sustain as long as they can in that particular business field. To fulfil such company main goal, a professionals are needed in every company. These professionals will help in generating fraudulent financial statements for the company. Being paid to do this trick, dying company can at least look just like a kindergarten child drawing a flower in the white board. Sometimes those professionals will feel like a blue bird singing under the tree. How easy they feel to make a trick by just playing with numbers. So, that's why it is a must for every company to have not only internal auditor but also an external auditor to double check the true and fair value of the company's financial statements. Both of the auditors can help in reducing the possibility of the company to commit fraud.

Besides that, fraud awareness culture can be created if one has a knowledge regarding fraud such as previously he or she had attended forensic accounting class to provide them with more awareness about fraud. Now a days lots of fraud cases happened and not only

involving the big and well known company, but also there is a case where fraud has occurred for just a small company. There is an early symptom before a person engaging with fraud and it is important for us as society to know that fraud symptom so that we can prevent that fraud from getting serious. The fraud perpetrator will commit with fraud, whether against or on behalf of the company. Three main factors contributing in fraud cases are pressure, opportunity and rationalization.

Several studies being conducted to find why a fraud perpetrator or practitioner commit with fraud even though he knows that fraudulent activity will harmful the company's reputation. For example, Transmile Group involved in disclosing fictitious financial statement for the year 2006 by overstated the company's revenue. Out of the studies related with fraudulent activities none of the studies discuss about the factors that can enhance the level of fraud awareness in more detail about each element. In this study, the discussion will be put more on the explanation of key drivers that can increase the level of fraud awareness. This study hoped to identify the relationship and how the key drivers which are forensic accounting, fraud cases, training, member composition, job position and integrity affect the level of fraud awareness among practitioners in Malaysia.

### Literature review

**Theoretical underpinning of study:** The underpinning theory for this study is the fraud triangle theory that explains the factors that factors that conduce to fraud perpetration. The elements which can be found inside the fraud triangle theory are pressure, opportunity and rationalization (Fig. 1). Usually in one company the most and frequent cases about fraud involved the top management such as CEO and CFO of the company. Top management are the one who responsible in monitoring the company's performance and ensuring that their company can maintain and sustain for such a longer period in one particular industry. Pressure will be the main reason why sometimes they must engage with fraud and produce fraudulent financial statement. They feel stress and being force to have such a good layout of financial statement presentation. If they fail to do so, they will lose their stakeholders confidence. Accounting scandal or creative accounting is needed when an organisation want to involve in fraud. Pressure is something that cannot be measured quantitatively. Pressure is an emotion that only can be observed by looking at the physical appearance and characteristics of that particular person. There are lots of ways to know either a person in pressure or not, one of

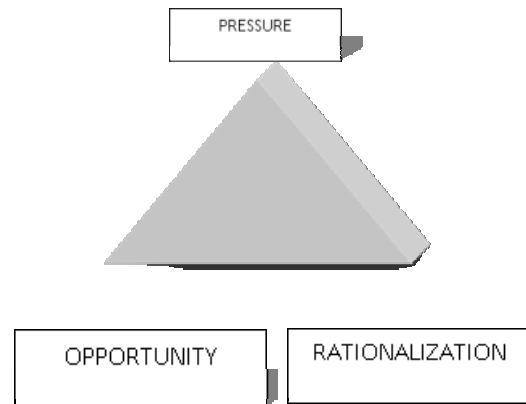


Fig. 1: Fraud triangle theory

these ways when the person doesn't know how to control the level of anger and always let himself being control by his emotions. However opportunity is when the fraud perpetrator start to commit fraud, a person will find a way that may help him/her to show how to commit with "ethical" fraud. Where rationalization is the best key that can help the fraud perpetrator from being caught in the earlier stage. The fraud perpetrator will use the best answer on why he commits fraud so that at least for the time being he can escape from being caught.

**Forensic accounting:** Forensic accounting is an investigative aspect of accounting used to determine whether an individual or an organization has engaged in any illegal financial activities where it's supposed to contribute significantly in detecting, preventing and reduces the occurrence of fraud cases. Several studies such as Johnson-rokosu have reported that the adoption of forensic accounting courses increasing in the accounting curriculum in growing number of universities with respect to prevent growing threats arising from fraud. It is because "adding a forensic accounting course to the accounting curriculum greatly benefits the three major stakeholders in accounting education especially academic institutions, students and employers of accounting graduates" (Buckoff and Schrader, 2000). Efiang (2012) stated that the adoption of forensic accounting into the universities accounting curriculum has a huge potential to enhance students skills and guide their competencies to overcome from fraud cases. Furthermore previous studies showed that, the engagement with forensic accounting technique helped in prevent, detect, respond to fraud cases and this is geared towards finding where money went how it got there and who was responsible. Thus an individual that possess forensic accounting subjects background will be more aware and alert with financial frauds and know how to prevent it and this can increase their level of fraud awareness.

**Fraud cases:** Accounting scandal or creative accounting will somehow distort the level of reliance by the users of financial reporting. The reliability, relevance, understandability and comparability of financial reporting might be criticize. A good quality of financial reporting will comply with four characteristics mention above (Cheung *et al.*, 2010). By having experience in fighting and reporting fraud the practitioner now will be more alert and more responsible in detecting any early warning signal of fraudulent activity. This will help to increase the level of fraud awareness among practitioners in Malaysia. Fraud cases among non-profit company keep arising and this shows that not only the profit orientation company will manipulate the figure on the face of company's financial reporting (Greenlee *et al.*, 2007). However in regard to the fraud perpetrator when fraud activities occur, company can charge the fraud perpetrator criminally or civilly. This kind of action will give a lesson to the other staff not to commit with fraud. Simultaneously, it may help to increase the level of fraud awareness among practitioners. Study conducted by Sengur (2012), indicated that whenever the fraudulent activities happen, external auditor may possibly be more aggressive and effective in detecting it. Besides, external auditor may prevent fraud perpetrator in manipulating the figure on financial reporting compare to internal auditor which will focus more in preventing misappropriation of assets and corruption.

**Training:** The increase of management fraud, theft embezzlement and other financial crimes indicate that accounting and auditing personnel must have training and skills in order to recognize these crimes, both at the state level and the grassroots (local) level to better ensure the states prospect in the area of fraud prevention, deterrence, detection, investigation and remediation. Hassink *et al.* (2010) stated that specific training programs should be provided for auditors because this will help the auditors to detect fraud and urged emphasize on the need for mandatory consultation with the technical department of the audit firm once "red flags" indicating fraud are found. Beside that training will not only detecting or investigating but preventing the incidence of fraud (Albrecht *et al.*, 2009). This indirectly shows that training is very important to prevent and to take precaution action from fraudulent financial statement. Furthermore, Albrecht *et al.* (2009) also stated that by employees participate in fraud awareness training program it will educate the trainee about "what is acceptable and unacceptable how all parties, including them, are hurt when someone is dishonest and what actions they should take if they see someone doing something improper".

Thus, previous studies indicate that by conducting fraud awareness training especially in the policies, procedures and standards of the company for the employees a company can enhance the consciousness of employees and helps to prevent fraud.

**Member composition:** According to fraud triangle theory, there are three key main factors that motivate fraud perpetrator in committing fraud which are perceive pressure, perceive opportunity and rationalization. For every case happen in Malaysia usually the fraud perpetrators will be one of the person sit on the top level of management in that particular company, for example Megan media case which the fraud perpetrators are the company's CEO and CFO. For a company that involve in fraudulent activities, usually the percentage of outside and independent directors are lower compare to company without fraudulent activities. Beasley (1996) also reported a similar output, whereby the proportion of independent and outside director are low in the firm experiencing with fraud. Additionally, Beasley argued that not only the presence of audit committee but the presence of board composition can reduce the likelihood of financial statement fraud.

**Job position:** In many cases job position of a person usually indirectly contributes towards fraud. This is might be explained that any person working in the business has a probability to somewhat commit fraud. Management has a unique ability to perpetrate fraud because it is frequently in a position that is directly or indirectly manipulate accounting records and present fraudulent financial information. Management fraud is often called fraudulent financial reporting which is an intentional misstatement or omission of amounts or disclosures by management with the intent to deceive users. However most of the previous studies indicate that with respect to the amount of fraud, employees at managerial positions are by far ahead of other employees but normally there are two main groups. In descending order of likelihood of involvement, they are:

- Senior management (CEO, CFO, etc). CEO was involved in 72% of the frauds while the CFO was involved in 43%. Either the CEO or the CFO was involved in 83 percent of the cases (Wells, 2005)
- Mid-level and lower-level employees. These employees are responsible for subsidiaries, divisions or other units and they can commit financial statement fraud to conceal their poor performance or to earn bonuses based on the higher performance (Wells, 2005)

Thus, when employees have a trustworthy position, they are monitored less; this is considered as the underlying reason of the preceding fact. Moreover, due to their position, they are in a better position to understand the entity's internal control structures and gaps in them and are thus able to conduct fraudulent activity more easily.

**Integrity:** Under Malaysian Institute of Accountants (MIA)-By Laws, one of the requirements that must be fulfilled by auditor is integrity. Integrity is a concept that requires auditor to carry out their task freely and in an objective manner. In the simplest term, integrity means honest. Similar with practitioners. Practitioners need to apply concept of integrity to ensure that their company is free from misrepresentation. Auditor and accountant are part of the term practitioners. Auditor must not perform their research for the sake of the company they engaged with but perform their research ethically. A good auditor will act ethically fully with independence sense all the way they perform their auditing work. By end of their task, they just need to issue the company with audit report. This audit report will show either the company engage with fraudulent activity or not. In today's business environment, no organization can afford to overlook corporate integrity. All organizations, no matter their size, business or geo- graphic location are victimized by fraud and must protect themselves from financial harm. Even organizations that lack the resources for a full Corporate Integrity Unit (CIU) can still help maintain integrity by either outsourcing integrity services to a professional investigative firm or cross- training someone with at least basic fraud-detection skills and hiring outside investigative consultants to assist when issues require investigation.

**Fraud awareness:** In now a days world where there is an accounting scandal occur, the quality of financial statements will be criticize. According to the Institute of Internal Auditors (IIA) standard, fraud is perpetrated by a person knowing that it could result in some unauthorized benefit to him or her to the organization or to another person and can be perpetrated by persons outside and inside the organization. Previous studies found the most common motivations for financial statement fraud include the need to meet internal or external earnings expectations, the need to conceal a deteriorating financial condition and a straight -forward desire for personal financial gain such as maximizing bonuses or the value of stock-based compensation. Thus, now a days users of financial statements questioning about the quality of the company's financial statements. A good quality of financial statements must have four

main characteristics which are reliable, relevance, understandability and also comparability. Without these four elements, a company cannot admit that their financial statements are reliable enough. Razaee and Riley (2009), argues that financial statements fraud is harmful in many ways it:

- Undermines the reliability, quality, transparency and integrity of the financial reporting process
- Jeopardizes the integrity and objectivity of the auditing profession, especially auditors and auditing firms
- Diminishes the confidence of the capital markets, as well as market participants in the reliability of financial information
- Makes the capital market less efficient and adversely affects the nation's economic growth and prosperity by reducing the credibility of financial information used by investors
- Results in huge litigation costs as corporations, their auditors and individuals complicit in the fraud can be sued for alleged financial statement fraud by investors
- Destroys the careers of individuals involved in financial statement fraud
- Causes bankruptcy or substantial economic losses for the company engaged in financial statement fraud
- Destroys the normal operations and performance of alleged companies

By having a knowledge regarding with unethical activities such as fraud, an individual will become more responsible in preventing it from happen. There are three distinct pathways to fraud which are lack of awareness, intuition coupled with rationalization and also reasoning (Murphy and Dacin, 2011). Thus, by having a good level of fraud awareness, it can help in shaping the behavior and good attitude of an individual. Fraud awareness is actually a sense of being caution with unethical activity that may be harmful to a company now and future. Previous studies indicate that fraud awareness, in terms of common warning signs or red flags and ways to detect or prevent financial statement fraud, is considered by most fraud experts to be the number one tool in fighting fraud. Thus, with having fraud awareness, a person will be more responsible in reporting any financial frauds cases. It can help in having a clear and smooth operation in a company.

## **MATERIALS AND METHODS**

This study was conducted to find the relationship among the key drivers given with fraud awareness. The sense of fraud awareness level among practitioners needs to be increase due to the accounting scandal that always arise anytime and everywhere. In the research framework

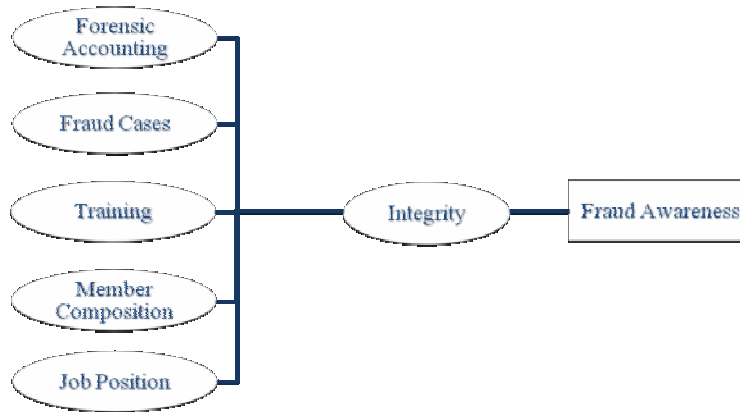


Fig. 2: Research framework

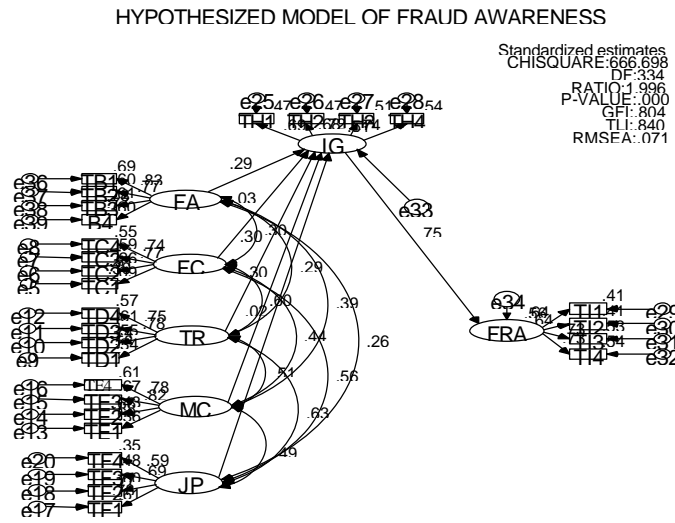


Fig. 3: Hypothesized model

as shown in Fig. 2, it shows that integrity mediate the relationship between forensic accounting, fraud cases, training, member composition and job position with fraud awareness. The literature indicates that, forensic accounting, fraud cases, training, member composition and job position directly affect fraud awareness. Further reading in this regard concluded that, there is a mediating effect of integrity towards fraud awareness. In this study, integrity was introduced as mediator variable between forensic accounting, fraud awareness, training, member composition and job position with fraud awareness. It argued that, when there is a mediating effect of integrity, those five key drivers forensic accounting, fraud cases, training, member composition and job position will aggressively effect the level of fraud awareness.

When this research framework translated into the hypothesized model as shown in Fig. 3, the manifesting variables are drawn with the error terms of each latent

variable. From Fig. 3, we can see that there are five exogenous variables consist of forensic accounting, fraud cases, training, member composition and job position and two endogenous variables namely integrity and fraud awareness. For all the exogenous and endogenous variables, each of them contain four items which also known as manifesting (observed) variables. The error of each item is drawn as unobserved variables in round circles and labelled as follow forensic accounting (e36- e39), fraud cases (e5-e8), training (e9-e12), member composition (e13-e16), job position (e17-e20), integrity (e25-e28) and fraud awareness (e29-32). The subsequent error terms are labelled as in diagram and each of the endogenous variables is attached with unique error labelled as e 33 and e 34 (Table 1).

**Sampling and instrument:** This study is to seek the level of fraud awareness among practitioners in Malaysia. The

Table 1: Operational definition of variables

Variables	Operational definition	Author
Forensic Accounting	Forensic accounting is the practice of rigorous data collection and analysis in the areas of litigation support consulting, expert witnessing and fraud examination.	Rezaee (2005)
Fraud cases	The ability to help organizations decide how best to respond to individual cases that related with any fraudulent activities.	Smith in 2001
Training	Increases of employee and management fraud, theft embezzlement and other financial crimes indicate accounting and auditing personnel must have training and skills to recognize those crimes.	Okoye and Gbegi in 2013
Member composition	For a company that involve in fraudulent activities, usually the percentage of outside and independent directors is lower compare to company without fraudulent activities.	Uzun, Szewczyk and Varma in 2004
Job position	Management has a unique ability to perpetrate fraud because it frequently is in a position to directly or indirectly manipulate accounting records and present fraudulent financial information.	Kadusic in 2011
Integrity	Integrity is a concept that requires auditor to carry out their task freely and in an objective manner. In the simplest term, integrity means honest.	MIA-By Laws in 2007
Fraud awareness	By having a knowledge regarding with unethical activities such as fraud, an individual will become more responsible in preventing it from happen.	Murphy and Dacin (2011)

respondent of this study is practitioner with sample size of total 203 practitioners being selected through random sampling all over Malaysia. Each of the respondents was given a set of questionnaire that contains eight section which measures all the constructs of concern. The questionnaires were distributed at the practitioner workplace by using simple random sampling. Out of 203 questionnaires distributed, only 200 questionnaires were collected which represent 96.5% of response rate.

The building of the questionnaires was based on previous study and each variable was measured using previously developed instrument as follows: forensic accounting 4 items; fraud cases 4 items; training measure 4 items; member composition measure 4 items; job position measure 4 items measured; integrity measure 4 items and fraud awareness measure 4 items all items measured by 5 point likert scale of-strongly disagree to-strongly agree). Besides that include in the instrument are eight demographic questions which use ordinal and nominal scale; gender, age, ethnic group, marital status, length of services, name of company, job title or designation and professional qualifications.

**Data screening and analysis:** The 198 dataset were coded and saved into Statistical Package for the Social Sciences (SPSS) version 21.0 and analyzed using Structural Equation Modeling (SEM) version 21.0. During the process of data screening for outliers, five dataset were

deleted due to Mahalanobis (D2) values more than the  $\chi^2$  value ( $\chi^2 = 56.89$ ;  $n = 28$ ,  $p < 0.001$ ) leaving a final 198 dataset to be analyzed. We also conducted univariate normality computations using z-scores of skewness statistics and standard error of skewness as well as kurtosis statistics. Z-score skewness of  $>1.96$  needs to be transformed since, it is considered as non-normal data (Hair *et al.*, 2006).

Thus, the z-score skewness values highlighted in grey were transformed using reflect function for negative values followed by square root function and ending in reflect function. For positive z-values, reflect function was omitted.

The transformed variables were then used in subsequent CFA and structural models (Table 2). Several statistical validity tests and analysis were further conducted such as reliability (Cronbach alpha) and composite reliability tests, validity tests using Confirmatory Factor Analysis (CFA) for construct convergent, discriminant and nomological validities. Subsequently, the data was subjected to descriptive analysis, correlation and structural equation modelling analysis. The steps in SEM analysis are CFA analysis, measurement analysis, discriminant analysis (average variance extracted), composite reliability analysis and direct indirect impact analysis (mediating effects), testing the fit for the hypothesized structural model, revised model, competing model and comparison of nested model analysis.

Table 2: Goodness of Fit Analysis-Confirmatory Factor Analysis (CFA) of Models (N=198)

Forensic Accounting	Fraud Cases	Training	Member Composition	Job Position	Integrity Awareness	Fraud Awareness	Exogenous: (Forensic)	Endogenous integrity	Hypothesized model accounting Fraud cases Member composition Job position	Revised model Fraud Awareness
4	4	4	4	4	4	4	20	8	28	28
2	2	2	2	2	3	2	10	5	28	15
20.545	29.694	24.181	11.260	1.582	20.665	7.152	341.223	47.585	666.698	86.835
2	2	2	2	2	2	2	160	19	334	7110.273
	14.847	12.090	5.630	0.791	10.332	3.576	2.133	2.504	1.966	1.223
0.000	0.000	0.000	0.004	0.453	0.000	0.028	0.000	0.000	0.000	0.0970.948
	0.934	0.945	0.972	0.996	0.946	0.981	0.850	0.933	0.804	0.947
0.952	0.824	0.917	0.964	1	0.928	0.975	0.887	0.947	0.859	0.9830.856
	0.473	0.752	0.892	1.005	0.785	0.926	0.866	0.922	0.840	0.975
0.316	0.273	0.304	0.319	0.331	0.307	0.322	0.682	0.622	0.668	0.6190.217
	0.265	0.237	0.153	0	0.218	0.114	0.076	0.087	0.071	0.034
0.738	0.670	0.724	0.861	0.980	0.732	0.906	0.803	0.873	0.762	0.910

RESULTS AND DISCUSSION

**Demographic profile of the respondents:** From performing descriptive analysis, the demographic profile of the respondents in this study as follow; the respondents’ age is ranged below twenty-five years old to forty-five years old and above. The frequent age range for the respondent in this research is the respondent in age ranged in between twenty-five to thirty years old with the percentage of 30.8%. The minimum number of respondents come from the age ranged of forty-five years old and above with the percentage of 11.6%.

The respondents for this study are mostly female respondents with frequency percentage of 61.1% that is more than half of the total respondents mean while male only represent 38.9% from the whole respondents. The majority of the respondents are Bumiputra (44.9%), followed by Chinese and Indian (27.3%) respectively and only 0.5% represents the other ethnic group. Some of the respondents have minimum of a year of working experience and majority of the respondents have working experience more than a year but less than six years. Length of services for the respondents in this study; less than a year (31.8%), more than a year but less than six years (34.3%), ranged of six to ten years (15.7%) and more than ten years (18.2%).

**Descriptive analysis of variables:** In this study, the theoretical framework consists of five exogenous variables namely: forensic accounting, fraud cases, training, member composition and job position and two endogenous of integrity and fraud awareness. The accepted reading of cronbach alpha that can be accepted is above 0.60. In this study, each construct shows the reading of cronbach alpha >0.60 which means all the constructs can be accepted. Meanwhile for the composite reliability reading, all the constructs give value >0.90 except for construct number two, fraud cases with lower

cronbach alpha and composite reliability among other constructs. For construct number two, its indicates that a possible internal consistency problem arise. During the descriptive analysis of variables, this construct will be included because under Confirmatory Factor Analysis (CFA) spurious items will be self-deleted.

Convergent validity (Confirmatory Factor Analysis-CFA). In this study, all the observed variables or items have factor loading >0.5 and some although, it is acceptable but some scholars such as recommended that factor loading to be >0.6. However, the range of the factor loading for the items is in between 0.580 to 0.860 except for two items fall under fraud cases with CFA factor loading <0.5 or 0.6 namely, item number one (TC1) and item number two (TC2). These two items were deleted for being below the accepted level of CFA factor loading. Factor loading can be defined as the interpretation of the role for each variable in defining each factor; or in other term it is the correlation of each variable and the factor. The higher the factor loading of the items, the more relevant the items in defining the dimension of the factor. According to Hair, Black, Babin anderson and Tatham, accepted factor loading for each item is above 0.50. The factor loading for all the items in this study is above 0.5 which means all the constructs conform to the construct convergent validity test. However, after deletions were made by using modification indices suggestions, the remaining numbers of items for each construct are as follows: forensic accounting (from 4-2 items), fraud cases (from 4-2 items), training (from 4-2 items), member composition (from 4-2 items), job position (from 4-2 items), integrity (from 4-3 items) and fraud awareness (from 4-2 items).

**Composite reliability:** The calculation of composite reliability was based on the standardized factor loadings



Table 3: Descriptive statistics of variables

Variable name	Mean (SD)	Cronbach alpha	Composite reliability
Forensic accounting	5.5703 (1.2717)	0.868	0.9698
Fraud cases	2.0456 (0.8002)	0.667	0.7333
Training	2.0712 (0.8948)	0.806	0.9300
Member composition	2.0095 (0.9319)	0.806	0.9338
Job position	2.0539 (0.8996)	0.802	0.9452
Integrity	2.0365 (0.8790)	0.810	0.9433
Fraud awareness	2.0288 (0.8921)	0.783	0.9343

Table 4: Average Variance Extracted (AVE) matrix of exogenous variables

Variable name	1	2	3	4	5
Forensic accounting (1)	1.000				
Fraud cases (2)	0.661	1.000			
Training (3)	0.830	0.602	1.000		
Member composition (4)	0.836	0.607	0.777	1.000	
Job position (5)	0.851	0.623	0.792	0.798	1.000

Table 5: Correlation and correlation square matrix among exogenous variables

Variable name	1	2	3	4	5
Forensic Accounting (1)	1.000	0.092**	0.084***	0.149***	0.066***
Fraud Cases (2)	0.303**	1.000	0.360***	0.198***	0.316***
Training (3)	0.289***	0.600***	1.000	0.262***	0.393***
Member composition (4)	0.386***	0.445***	0.512***	1.000	0.242***
Job position (5)	0.257***	0.562***	0.627***	0.492***	1.000

Values below the diagonal are correlation estimates among constructs, diagonal elements are construct variances, and values above the diagonal are squared correlation. Since all correlations are significant, mediation is plausible

obtained from the final revised structural model. The results displayed in Table 3, shows that the reading for all exogenous latent constructs are well achieved with value >0.60; the higher construct with higher reading of composite reliability is forensic accounting with value of 0.970 and the lowest is fraud cases of 0.733.

**Discriminant validity:** To substantiate discriminant validity, Average Variance Extracted (AVE) is compared to correlation squared of the interrelated variables of concerned. The AVE is derived from the calculation of variance extracted using the following equation:

$$\text{Variance Extracted (VE)} = \frac{(\text{Standardized SMC})^2}{(\text{Standardized SMC})^2 + \epsilon_j}$$

The variance extracted is calculated and presented in Table 4. From the variance extracted, AVE is then calculated by averaging the two variances extracted of the variables. The finding is presented in a matrix as in Table 5. For discriminant validity to be upheld, the value of AVE must be more than correlation squared Table 3. For example, between the variables forensic accounting and fraud cases, the AVE=0.661 (Table 5) while correlation squared=0.303 (Table 5). Hence, AVE > correlation squared, thus, discriminant validity is supported. All constructs used for this study support discriminant validity.

**Nomological validity:** Nomological validity examines whether the correlations between constructs in the measurement theory makes sense such that correlations must be positive or negative according to theory stipulated. From Table 5, it is observed that all directions of correlations are in the hypothesized direction as stipulated in the current study hypothesis. Thus, it can be deduced that nomological validity is substantiated for all measures used in this study.

**Goodness of fit of structural model** To arrive at the structural model, Confirmatory Factor Analysis (CFA) was conducted on every construct and measurement models (Table 2). The goodness of fit is the decision to see the model fits into the variance-covariance matrix of the dataset. The CFA, measurement and structural model have a good fit with the data based on assessment criteria such as GFI, CFI, TLI, RMSEA. All CFAs of constructs produced a relatively good fit as indicated by the goodness of fit indices such as CMIN/df ratio (<2); p-value (>0.05); Goodness of Fit Index (GFI) of >0.95; and root mean square error of approximation (RMSEA) of values < 0.08 (<0.08).

In Table 6, it shows that the goodness of fit of generated or revised model is better compared to the hypothesized model. This is expected as hypothesized model is usually strictly confirmatory. GFI of revised model is 0.947 compared to GFI of hypothesized model of 0.804. Root Mean Square Error Approximation (RMSEA) also shows a better readings of 0.034 for revised model compared to 0.071 for hypothesized model (<0.08).

**Hypotheses results:** Since the results of hypothesized model did not achieve model fit (p<0.000), hence, the explanation of hypotheses result were based on generated or revised model (Table 7 and Fig 4). In this study, the results show that out of six hypotheses, four hypotheses is accepted and the other two hypotheses is rejected. The accepted hypotheses; H1 (Forensic accounting to Integrity), H3 (Training to Integrity), H4 (Member composition to Integrity) and H6 (Integrity to Fraud Awareness) and the rejected hypotheses; H2 (Fraud Cases to Integrity) and H5 (Job Position to Integrity). For mediating effect, only H7 is accepted.

Hence, fraud cases have a direct significant impact on fraud awareness (β = 0.330; CR = 1.971; p<0.05). Training (β = 0.02; CR = 2.857; p≤0.05), member composition (β = 0.03, CR = 3.101, p≤0.05) and job position (β = 0.02, CR = 3.464, p=<0.05) also have direct relationship with

Table 6: Goodness of Fit Analysis-Confirmatory Factor Analysis (CFA) of Models (N=198)

Finals	Forensic accounting	Fraud cases	Training cases	Member composition	Job composition	Integrity	Fraud position	Exogenous: Awareness accounting Fraud cases Training, Member composition Job position	Endogenous Forensic Awareness	Hypyheseized (Integrity,Fraud	Revised Model
Original Items	4	4	4	4	4	4	20	8	28	28	
Items remain	2	2	2	2	2	2	2	10	5	28	15
CMIN	20.545	29.694	24.181	11.260	1.582	20.665	7.152	341.223	47.585	666.698	86.835
Df	2	2	2	2	2	2	2	160	19	334	71
CMIN /df	10.273	14.847	12.090	5.630	0.791	10.332	3.576	2.133	2.504	1.996	1.223
p-value	0.000	0.000	0.000	0.004	0.453	0.000	0.028	0.000	0.000	0.000	0.097
GFI	0.948	0.934	0.945	0.972	0.996	0.946	0.981	0.850	0.933	0.804	0.947
CFI	0.952	0.824	0.917	0.964	1	0.928	0.975	0.887	0.947	0.859	0.983
TLI	0.856	0.473	0.752	0.892	1.005	0.785	0.926	0.866	0.922	0.840	0.975
PNFI	0.316	0.273	0.304	0.319	0.331	0.307	0.322	0.682	0.622	0.668	0.619
RMSEA	0.217	0.265	0.237	0.153	0	0.218	0.114	0.076	0.087	0.071	0.034
AGFI	0.738	0.670	0.724	0.861	0.980	0.732	0.906	0.803	0.873	0.762	0.910

Table 7: Direct Impact of Revised Model: Standardized Regression Weights

H	Endogenous	Exogenous	Std. Estimate	S.E.	C.R.	P-value	Status
H1	Integrity	Forensic accounting	0.086	0.033	2.583	0.010	Sig
H2	Integrity	Fraud cases	-0.043	0.097	-0.441	0.659	Not Sig
H3	Integrity	Training	0.402	0.172	2.345	0.019	Sig
H4	Integrity	Member composition	0.328	0.122	2.694	0.007	Sig
H5	Integrity	Job position	-0.169	0.156	-1.088	0.277	Not Sig
H6	Fraud awareness	Integrity	0.687	0.144	4.761	***	Sig

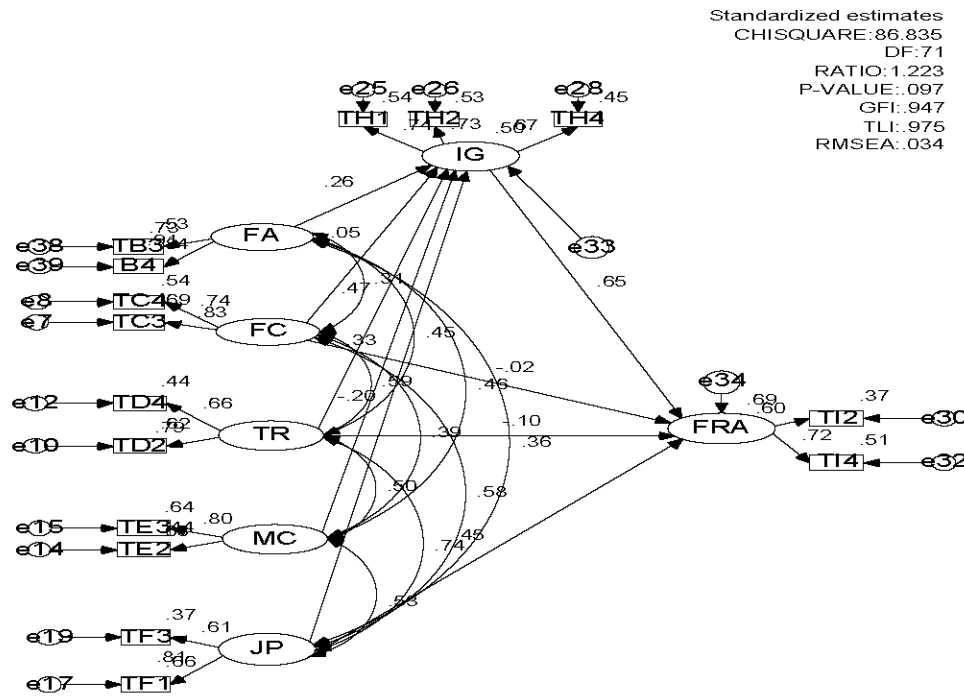


Fig. 4: Generated model (AMOS Graphic)

fraud awareness respectively. The revised model also generates four new direct paths which are H8, H9, H10 and H11.

**Mediating effect analysis of revised model:** Table 8 shows the indirect effect estimates to test the mediating effects

of integrity on forensic accounting, fraud cases, training, member composition and job position with fraud awareness as hypothesized in hypothesis H7 to H11. From the result, only H7 is supported and the other hypotheses which are H8, H9, H10 and H11 are not having the mediating effect. For H7: integrity mediates the

Table8: Indirect Effect of Variables Interaction

H	Exogenous	Mediated	Endogenous	Direct Effects Estimate – No Link	Direct Effects Estimate – Link	Mediating hypothesis
H7	Forensic accounting	Integrity y	Fraud awareness	FA_IG = S IG_FRA = S	FA_IG=S IG_FRA=S	Full Mediator
H8	Fraud cases	Integrity y	Fraud awareness	FC_IG = NS IG_FRA = S	FC_IG=NS IG_FRA=S	Not Mediator
H9	Training	Integrity y	Fraud awareness	TR_IG = S IG_FRA = S	TR_IG = NS IG_FRA=S	Not Mediator
H10	Member composition	Integrity y	Fraud awareness	MC_IG=S awareness	MC_IG=NS IG_FRA=S	Not Mediator IG_FRA=S
H11	Job position	Integrity y	Fraud awareness	JP_IG=NS IG_FRA=S	JP_IG=NS IG_FRA=S	Not Mediator

Table 9: Comparison between Hypothesized Model, Revised Model and Competing Model

H	Exogenous	Mediation	Endogenous	Hypothesized model			Revised model		
				S. Estimate	p	Hypothesis status	S. Estimate	p value	Hypothesis status
H1	Forensic accounting		Integrity	0.071	0.000	Accepted	0.033	0.010	Accepted
H2	Fraud cases		Integrity	0.104	0.761	Rejected	0.097	0.659	Rejected
H3	Training		Integrity	0.108	0.008	Accepted	0.172	0.019	Accepted
H4	Member Composition		Integrity	0.085	0.002	Accepted	0.122	0.007	
H5	Job position		Integrity	0.129	0.864	Rejected	0.156	0.277	Rejected
H6	Integrity		Fraud awareness	0.104	0.000	Accepted	0.144	0.000	Accepted
H7	Forensic Accounting	Integrity	Fraud awareness	-	-	-	Direct effect	Indirect	Mediating
							0.997	2.383 x	
H8	Fraud cases	Integrity	Fraud awareness	-	-	-	1.971	5.457	Not mediating
							2.857	1.858 x	
H9	Training	Integrity	Fraud awareness	-	-	-	4.322	1.858 x	Not mediating
							3.101	1.947 x	
H10	Member Composition	Integrity	Fraud awareness	-	-	-	3.464	4.416	Not mediating
							-0.943 x 6.221		
H11	Job position	Integrity	Fraud awareness	-	-	-	-0.994 x 5.486		

relationship between forensic accounting and fraud awareness. There is significant increase of indirect effects for these relationships compared to direct impacts. Meanwhile, for H8, H9, H10 and H11: integrity does not mediate the relationship between fraud cases, training, member composition and job position with fraud awareness respectively.

**Overall Comparison between structural models:** Table 9 indicates the overall comparison between two structural models (hypothesized and revised) derived from the study. It shows that hypothesized model and revised model produce four significant relationships and rejected two hypotheses which are H2 and H5. Even though there are more significant direct impacts in hypothesized model, the results could not be generalized due to non-achievement of p-value ( $p < 0.05$ ). It seems that, from the revised model, there are four significant direct impacts which are H8, H9, H10 and H11. These four direct impacts show significance straight line with  $CR > 1.96$  and  $p < 0.05$ . Only for H7 the mediating effect arises and for H8-H11 there are no mediating effects.

For mediating effect of fraud awareness, we found full mediating effect of: integrity mediates the relationship between forensic accounting and fraud awareness (H7) and for H8 to H9, we found negatively mediating effect of fraud awareness with fraud cases, training, member composition and job position (direct line with  $CR > 1.96$

and  $p < 0.05$ ). Among the two structural models, revised model achieved the higher Squared Multiple Correlation (SMC) or ( $R^2$ ), in which the revised model explains 49.60% variance in integrity; 69.30% variance in fraud awareness.

### CONCLUSION

This study attempts to examine the causal relationships between five antecedents of fraud awareness among practitioners in Malaysia. The conceptual underpinning used is the theory of fraud triangle of Cressey which talking about the three elements of fraud motivation. As expected, the hypothesized model does not achieve model fit ( $p$  value = 0.000,  $p < 0.001$ ). This implies that hypothesized model could not be generalized to the population.

However, the revised model was accomplished, the model was fit and supported four out of six hypothesis and one out of five mediating effect was supported as well. In this study, from the model fit we can see that four direct effects being supported. The first variable test in this study is forensic accounting. As stressed by Rezaee (2005), forensic accounting is a compulsory subject for accounting students. By learning forensic accounting, students can make themselves prepare in any possibility to fight fraud in the future. Forensic accounting also can be said as one of the investigative style in detecting any

individuals committing fraud. For fraud cases and job position, there are only few studies in Malaysia touch on that two variables in related with level of fraud awareness among practitioners. The other remaining variables such as training, member composition and integrity show a positive relationship towards the level of fraud awareness. However, the current study has established four direct causal effects: fraud cases and fraud awareness; training and fraud awareness member composition and fraud awareness and job position and fraud awareness. Additionally, this study also manage to present first time findings on the only one mediating effects: integrity mediates relationship between forensic accounting and fraud awareness.

In this study, the dependent variable is fraud awareness. Fraud awareness is actually a sense that an individual has in term of ethically knowing what is right and what is wrong and action need to be taken in overcoming bad situation. By having a knowledge regarding with unethical activities such as fraud, an individual will become more responsible in preventing it from happening. However, possession of sufficient ethical knowledge can play a microanalytic to prevent fraud from occurring in an organization. There are three distinct pathways to fraud which are lack of awareness, intuition coupled with rationalization and also reasoning (Murphy and Dacin, 2011). It is therefore necessary to ensure that practitioners in Malaysia have a high level of fraud awareness.

#### **RECOMMENDATIONS**

The finding of this study can help practitioners to be more alert with fraud cases that might happen in an organization. In addition, future research can be conducted on practitioners in the public sector to increase fraud awareness there. Besides that the model used in this

study has shown some interesting findings which could be applied in research on a bigger scale to include the whole of Malaysia and Asian region.

#### **REFERENCES**

- Albrecht, W.S., C.C. Albrecht, C.O. Albrecht and M.F. Zimbelman, 2009. *Fraud Examination*. South-Wester Cengage Learning, Mason, Ohio.
- Beasley, M.S., 1996. An empirical analysis of the relation between the board of director composition and financial statement fraud. *Account. Rev.*, 71: 443-465.
- Buckoff, T.A. and R.W. Schrader, 2000. The teaching of forensic accounting. *J. Forensic Accounting*, 1: 135-146.
- Cheung, E., E. Evans and S. Wright, 2010. An historical review of quality in financial reporting in Australia. *Pacific Accounting Rev.*, 22: 147-169.
- Efiong, E.J., 2012. Forensic accounting education: An exploration of level of awareness in developing economies-Nigeria as a case study. *Int. J. Bus. Manage.*, 7: 26-34.
- Hassink, H., R. Meuwissen and L. Bollen, 2010. Fraud detection redress and reporting by auditors. *Managerial Auditing J.*, 25: 861-881.
- Murphy, P.R. and M.T. Dacin, 2011. Psychological pathways to fraud: Understanding and preventing fraud in organizations. *J. Bus. Ethics*, 101: 601-618.
- Razae, Z. and R. Riley, 2009. *Financial Statement Fraud: Prevention and Detection*. 2nd Edn., John Wiley and Sons, New York.
- Rezaee, Z., 2005. Causes consequences and deterence of financial statement fraud. *Critical Perspect. Accounting*, 16: 277-298.
- Wells, J.T., 2005. *Principles of fraud examination*. John Wiley & Sons, New Jersey, USA.,