

## **A STUDY OF MALAYSIAN ACCOUNTING EDUCATION IN HIGHER-LEARNING INSTITUTIONS: IS MALAYSIA PREPARING UNDERGRADUATES FOR A TSUNAMI OF FRAUD?**

**Derek Ong Lai Teik**

Business School, Sunway University, Malaysia

**Sharifah Ameera Al-Mashoor**

Business School, Sunway University, Malaysia

**Siew Weng Chung**

Business School, Sunway University, Malaysia

**Ng Qing Song**

Business School, Sunway University, Malaysia

### **ABSTRACT**

The current syllabus lack sufficiency of fraud education in areas of auditing, fraud examination and forensic accounting in the current accounting curriculum. This paper seeks to analyze the relationship between final year accounting students' perceived coverage of fraud education and the overall sufficiency of the three areas in higher-learning institutions. Learning objectives were used to determine the sufficiency of fraud education in current accounting curriculum and a brief comparison between different higher learning institutions in Malaysia, students with and without internship experience, and test of ethical conduct was performed. Findings include insufficient coverage in the areas of fraud examination and forensic accounting but not auditing and that the students' perceived coverage of fraud education depends on the sufficiency of fraud examination and forensic accounting areas. The paper only tested the perception aspect of students and results may differ depending on student's aptitude in learning. This study provides valuable input to redesigning the current accounting curriculum to expose students to fraud-based learning environment and also incorporating forensic accounting courses. It seeks to regain society's confidence in the accounting profession through improved fraud detection. The research will add value to the accounting education offered to undergraduates as very little prior research has been done to provide insights in students' (end-user) perception of fraud education.

### **1. INTRODUCTION**

A calamity was brought upon to the accounting profession with the sudden escalation in the amount of accounting scandals that hit in the past decade. Notably after Enron Corp. scandal broke out in United States, auditors faced extreme scrutinization in the public's eye ever since and the collapse of Arthur Anderson led the public in a major confidence crisis in auditors as 'watchdogs' and 'gatekeepers'. The 2010 *Report to the Nations on Occupational Fraud and Abuse* identified a potential total worldwide fraud loss to be more than \$2.9 trillion and reported frauds lasted a median of 18 months before being discovered (Association of Certified Fraud Examiners, 2010). The fact that there are increasing numbers of scandals being exposed all over the globe that went undetected for years presents a disturbing trend. The fraudulent activities which prevailed through the meticulous and keen eyes of auditors in a giant corporation cast a cloud of doubts over the education given to accounting students.

Malaysia was struck with the same fate when one of the largest accounting scandals in the country, Transmile Group had overstated revenues by RM530 million and went undetected for one year (Sidhu, 2007). Based on *Fraud Survey Report* by KPMG Malaysia (2009), 61% of respondents expect the level of fraud to increase over the next two years with 49% experienced at least one fraud. In the wake of growing fraud cases, higher learning institutions around the world are pressurized to incorporate ethics within accounting context and stressed the importance of cultivating ethical students as a fraud prevention tool. However, the extent to which ethical courses will produce ethical accountants is dubious.

Unfortunately, less attention was given in the need for fraud education as a detection tool for accounting students in business schools (Caliyurt and Crowther, 2006). Both presidents of Association of Certified Fraud Examiners (ACFE) and American Institute of Certified Public Accountants (AICPA) emphasized on the importance of providing anti-fraud education for today's accounting students to be successful in combating fraud as tomorrow's auditors (Peterson, 2004).

Many researchers (Peterson, 2004; Caliyurt and Crowther, 2006; Rezaee and Burton, 1997; and Koh *et al.*, 2009) had emphasized on the insufficient fraud education in the accounting curriculum especially in areas of fraud and forensic accounting. However, no prior research has been done on the end users' (students) view on the coverage of fraud education. Consequently, our study will further improve the understanding of the sufficiency of fraud education in the context of Malaysian universities which will shed some light on the accounting education in the country and possibly refashioning the accounting education to respond to the highly fraudulent environment today. Thus, helping the business and society improve its overall integrity.

## **2. LITERATURE REVIEW**

### **Definition of Fraud**

Fraud is a legal concept that includes many definitions. It is 'an intentional act by one or more individuals among management, those charged with governance, employees, or third parties, involving the use of deception to obtain an unjust or illegal advantage.' (Lee, 2012). ACFE (2010) classified fraud into three main categories: asset misappropriation, fraudulent financial reporting, and corruption.

The fraud theory developed by Cressey (1973) found three crucial elements that constitutes to a person committing a fraud, which are pressure, opportunity, and rationalization/attitude. The fraud triangle established that the combination of three is necessary for fraud to materialize. Pressure may arise in terms of pressure to present a healthy financial statement to the shareholders while opportunity may be present when circumstances like weak internal control allow fraudulent behaviors. Rationalization/attitude refers to character, ethical values and excuse that might justify any offense as acceptable based on one's thinking. The opportunities to commit fraud however might be reduced with fraud education as a detection tool. In essence, fraud triangle will be broken when opportunities are reduced to minimal level which can lead to a significant decrease in fraud cases.

### **ETHICS EDUCATION**

The globalization and diversification of accounting services combined with market competition and high profile corporate collapses has drawn attention to the immense accounting sector and

its perceived ethical conducts (Armstrong *et al*, 2003). The term ethics or ethical theory, is often referred to the study of morality, such as standards rules and principles of moral behavior that are determined by society as right versus wrong in a given situation (Crane and Matten, 2010). Recent studies from Kroll global fraud report on regional fraud similarities shows that internal fraud is increasing. '60% of all frauds committed was by someone who worked for the company in some way.' (Kroll, 2011)

Despite the constant ethics education and training provided, there has been increasing concern on the value of teaching ethics as results on fraud analysis in Malaysian society proved otherwise. However, evaluation on the effectiveness of business ethics courses offered to business students in public universities found that the courses provide a remarkable impact on student's level of ethical sensitivity but little improvement in judgment making ability (Mohamed Saat *et al*, 2010). The perception gauged from student's attitudes is that acting ethically does not paramount in their approach to working in the profession. The only factor which appeared capable of influencing students to act ethically was the fear of getting caught (O'leary and Cotter, 2000). Besides, there are many other influential factors to moral conduct which involves a complex relationship between individual character and cultural influences. Psychologist Stanley Milgrams's classic obedience to authority experiment at Yale University offers an example of how readily the 'good' can go 'bad' under situational pressures. Another research on organizational behavior similarly finds that people are more likely to engage in unethical conduct when acting with others under the influence of the ethical climate (Rhode and Packel, 2009).

Finally, whether students' ethical reasoning abilities change as they gain work experience in the accounting profession should also be examined in future longitudinal studies. It may be that experiences in the workplace dictate how professionals react to ethical dilemmas, regardless of the method in which they were exposed to ethics in accounting as part of their undergraduate curriculum (Klimek and Wenell, 2011). Since ethic courses existed well before Enron scandal broke, ethics course alone is not sufficient and effective. Post-Enron period shifted even more concentration to ethics modules (prevention) and neglected the improvement to accounting curriculum in detection of fraud.

#### **FRAUD EDUCATION IN ACCOUNTING CURRICULUM**

Fraud has to be detected first, no matter the nature and facade, since detection is a key prerequisite of rooting out any kinds of fraud (McNeil, 1992). Worldwide publicized financial scandals and increasing cases of fraudulent activities have heightened concerns over forensic accounting and fraud education as area of specialization for current accounting curriculum. Society expects accountants to pursue a more attractive role in providing reasonable assurance regarding responsible corporate governance, reliable financial reporting, detecting and preventing fraudulent financial activities. Forensic accountants are required to have a range of knowledge in performing litigation services, giving expert testimony and conducting fraud investigation (Rezaee and Burton, 1997). These abilities are substantial and should perhaps have a more prominent position in the accounting curriculum. The Chairman and Founder of the ACFE, Joseph T. Wells has executed a 'Higher Education Program' that aims to have fraud courses to be integrated in accounting curriculum within 5 years in at least half of the universities in the United States (Carozza, 2002). Fraud education encompasses the teachings of fraud investigative skills and the basic understanding of fraud. Peterson and Reider (1999) noted that an effective fraud course should prepare students with 'knowledge and skills in areas of: (1) financial expertise, (2) fraud perpetrators and their motivations, (3) evidence collection

and evaluation, (4) legal elements of fraud, (5) ethical and legal issues, (6) report writing, testifying, and interviewing of witnesses and/or perpetrators, and (7) critical thinking skills by being able to see the 'big picture'.

Accounting leaders perceived the current accounting education today is insufficient, outdated, broken and needs to be modified significantly to industry demands of valuable accountants (Albrecht and Sack, 2000). A growing gap persisted between the roles of a professional accountant and what is being taught in the accounting education. According to high standards in current industry, accountants are being held to understand and find fraudulent activities in an organization (Carnes and Gierlasinski, 2001). The demand for entry-level practitioners and professionals who possess fraud knowledge and forensic accounting skills have significantly increased over the years. Accounting undergraduates who remains narrowly educated in these areas will have difficulties in competing in an expanding profession (Albrecht and Sack, 2000). AICPA committee analysis of accounting practice indicates that the current accounting education approach requires major adjustments. As a result of these trends, accounting and law enforcement professionals have urged the academic institutions to enhance the fraud and forensic accounting course offerings in current accounting programs. Certified Fraud Examiners (CFE) also reported that employers would prefer to hire students who are equipped with sufficient auditing, fraud and forensic accounting knowledge.

Academicians are more concerned with the importance of addressing how students learn (Rezaee and Burton, 1997). The current accounting curriculum is focusing more on its pedagogical approach compared to its content of syllabus and training of accountants who are more responsive towards environment. A review by practitioners and academicians of existing higher education institution offerings indicates that the accounting curriculum should be revised to produce better quality students. There is a need to review and revise the course syllabus to increase its relevancy towards the business environment (Titard *et al*, 2004). There is still a lack of a proper and complete framework for fraud education today.

Under the funding of U.S. Department of Justice (2007), West Virginia University developed a model curriculum in fraud and forensic accounting as a guideline to further improve education given in these areas. The model curriculum illustrates three critical areas in fraud education, which is auditing, fraud and forensic accounting.

## **AUDITING**

There is often a confusion of perception regarding the auditor's role and responsibility for detecting fraud. Society has implemented such fraud detection roles as a major justification for audits (Carnes and Gierlasinski, 2001). Responses from Public Oversight Board (POB) show that the findings of fraud have been overlooked by the auditors. The POB group of panel review efforts of large accounting firms by evaluating audit activities. Recently, the panel is concerned that auditing profession is not updated to the rapidly changing environment. The panel believes that professions need to vigorously address issues of fraudulent financial reporting and forensic base to aspire the 'zero defects' which completely eliminates audit failures (Public Oversight Board, 2002). Accounting students are only taught to provide assurance that financial statements give a true and fair view.

Specifically, the introduction of the new SAS 99 in Statement of Auditing Standards (SAS) expanded the areas of fraud detection in financial statement. However, the Auditing Standards Board recognizes that it would not be realistic to require auditors to detect fraud due to its

various natures (Peterson, 2004). Guidance in SAS 99 will not help to uncover most fraud not present in financial statements since SAS 99 only requires auditors to provide reasonable assurance of free material misstatement in financial statements and to perform audit only on high-risk areas. Present auditors are not fully equipped with training in fraud, thus leading recommendations for auditors to invest 10 per cent of professional education in anti-fraud education.

Most universities only provide accounting students with basic exposure to fraud and accounting ethics in auditing courses (Carnes and Gierlasinski, 2001). Traditional auditing courses are inclusive of fraud instructions within the curriculum in the past, and such auditing serves as a base of developing an integrated fraud and forensic course (Smith and Crumbley 2009).

### **FRAUD EXAMINATION**

It was asserted that fraud is rarely observed (Abrecht, 2005). This makes it difficult to trace evidences in the event of fraud. ACFE (2010) in its report remarked that 90% of cases are asset misappropriation schemes. Asset misappropriation will require investigative skills to uncover the fraud. ACFE also reported that fraud committed by owners/executives lasted twice as long compared to employee before being detected. It illustrates poor internal control and corporate governance and the difficulty to detect high-ranking frauds, hence the importance of fraud detection skills. 'The increase of accounting fraud in terms of number of fraud cases, and the increase in the dollar amount of the fraud, increases the need to educate students on understanding fraud, recognizing red flags of fraud, and dealing with fraud.' (Shinde *et al*, 2011).

Peterson (2003) noted low awareness of 'the sheer magnitude of fraud problem' as one reason for the limitation of fraud education in the accounting curricula. Improving awareness in fraud detection is imperative to realistically deal with increasing fraud in the business world. 'Some academicians have been very vocal about the inadequacies of accounting and business education, particularly in terms of teaching students how to recognize, avoid, and catch fraudulent activity' and the need to devote more time for fraud topics (Shinde *et al*, 2011). Caliyurt and Crowther (2006) also found that only 50% of academicians teach about fraud in their courses.

### **FORENSIC ACCOUNTING**

Rezaee and Burton (1997) advocated that accounting graduates must be able to respond towards the business environment and with major attention is given to forensic accounting; it must be at a grass-root level as students today are accountants tomorrow. Results from Carpenter *et al* (2011) research indicated that forensic accounting helps students to evaluate risk more accurately. According to Malaysian ACFE president, Akhbar Satar said education is the key in the fight against fraud and 'only when the individuals and the corporations are aware of the different fraudulent schemes in the market will they be able to defend against them' (Singh, 2008). 80% of frauds cases are not reported annually according to ACFE Malaysia (Bernama, 2008) accentuate the necessity for an in-depth knowledge of fraud schemes through forensic accounting.

Past research discovered a limitation of coverage in the forensic accounting topics in the accounting curricula and only a few universities offer forensic accounting course. 'A perceived gap in the accounting curriculum content and the amount of forensic accounting education

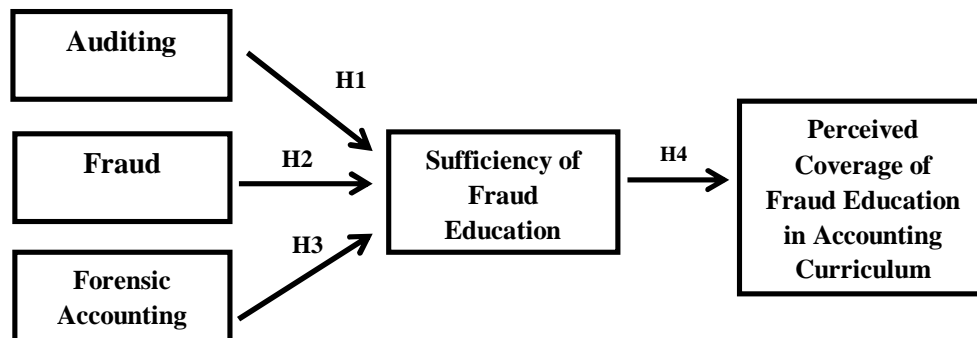
future Certified Fraud Examiners (CFE) will need.’ was also found by Rezaee and Burton (1997). Koh *et al.* (2009) noted that forensic accounting is still new to Malaysia. Although there is a growing demand for forensic accounting education today, it is only available predominantly for higher level of professional education. At ground level, however the learning and exposure to forensic accountant skills are scarce in the accounting education in Malaysia.

### 3. METHODOLOGY

Using purposive sampling, 250 respondents were given a questionnaire for this study with the criteria that they had to be students in their final year of an accounting degree in well-established business school institutions (3 private and 3 public).

The five-section questionnaire was pretested and revised before being distributed to the final target samples. All sections are in the form of six-point Likert scale. The model curriculum developed by West Virginia University was used as research instrument to form the basis of determining sufficiency in fraud education through learning objectives in three areas; auditing, fraud and forensic accounting. Part A, B and C sought respondents to determine if their accounting programme has help to achieve the learning objectives in the areas of auditing, fraud and forensic accounting respectively. Part D asked respondents’ perceptions regarding the coverage of fraud education in their accounting degree. The last part is a section to test the ethical conduct of the respondents.

### THEORETICAL FRAMEWORK



- H1:** The accounting curriculum provided *insufficient* coverage in areas of auditing to accounting students.
- H2:** The accounting curriculum provided *insufficient* coverage in areas of fraud to accounting students.
- H3:** The accounting curriculum provided *insufficient* coverage in areas of forensic accounting to accounting students.
- H4:** Accounting student’s perception of fraud education coverage in the accounting curriculum *depends* on the sufficiency of fraud education in the areas of auditing, fraud and forensic accounting.

**4. RESEARCH FINDINGS & DISCUSSION**

**Table 2: Characteristics of Respondents (N = 244)**

	Respondents			Respondents	
	No.	%		No.	%
<b>Gender</b>			<b>University</b>		
Male	122	50.0	Private	132	54.1
Female	122	50.0	Public	112	45.9
<b>Age Category</b>			<b>Internship</b>		
18 and below	2	.8	Yes	112	45.9
19 to 21	122	50.0	No	132	54.1
22 to 24	101	41.4	<b>Working Experience</b>		
25 and above	19	7.8	Yes	161	66.0
			No	83	34.0

Factor	Eigenvalue	Percentage of Variance	Cumulative Percentage	Cronbach's Alpha
<b>Auditing</b>	11.118	32.701	32.701	.877
<b>Fraud</b>	3.833	11.273	43.974	.856

**Table 1: Components of New Factors and the Factor Loadings**

Among the 250 sampled only 244 were usable (6 were discarded due to incomplete information) with an equal amount of male and female. 54 per cent of responses are from private universities while 46 per cent from public universities. The bulk of accounting students sampled is in the age range of 19 to 24 years old. 46 per cent went for internship while 66 per cent has some sort of working experience.

**Table 3: Factor Loadings and Reliability Summary of Items Used in Questionnaire**

Factor A – Auditing		Factor C – Forensic Accounting		
A1 To understand auditing and accounting issues related to business environment	.691	C5 Ability to differentiate between facts and opinions as an expert witness in legal proceeding	.681	
A2 To identify the major areas of financial statement fraud	.765	C6 To understand various financial and economic model calculations	.600	
A3 To identify the various fraud schemes based on fact patterns and likelihood of occurrence	.707	C8 Identify and create evidence for legal proceeding	.725	
A4 To understand anti-fraud techniques and good internal controls	.698	C9 A general knowledge of the types and purpose of damages, including remedies	.723	
A5 To conduct fraud risk assessment	.709	C10 Create damage claims consistent with investigation facts and findings to recover losses	.798	
A6 To recognize the gap between audit risk and control	.707	C11 Ability to critique business valuation analyses from organizations in compliance with professional standards	.663	
A7 To understand the red flags that indicates fraud in financial statement	.656	C12 Ability to communicate evidence effectively	.678	
		C13 Ability to conduct effective interviews to obtain evidence	.761	
		C14 To understand the ways in which IT systems are used for fraud and cyber-crimes	.827	
		C15 To understand the nature and dynamics of fraud and financial crimes (criminology)	.764	
Factor B - Fraud		Factor D – Perceived Coverage of Fraud Education		
B7 To develop ability to evaluate specific fraud schemes	.410	D2 My accounting degree provided me sufficient fraud detection skills before I graduate.	.805	
B8 To develop creative thinking and problem solving skills in fraudulent situation	.712	D3 My accounting degree provided me sufficient skills in forensic accounting before I graduate.	.829	
B9 To promote good anti-fraud environment	.652	D4 My accounting degree sufficiently equipped me to face the potential threat of fraud in the workplace.	.527	
B10 To identify the situations of fraud in the workplace	.772			
B11 To identify the differences between fraud and errors in evidences collected	.692			
<b>Forensic Accounting</b>	1.844	5.424	49.398	.921
<b>Perceived Coverage of Fraud Education</b>	1.376	4.046	62.343	.663

Factor analysis was used to reduce the 50 items to 34 items separated by six factors. Four factors were chosen to best represent the appropriate independent (Factors A, B and C) and dependent (Factor D) variables shown on table 2. Table 3 provides Eigen values, percentage explaining the variance of each factor and the reliability test of the components. The resulting four factors have Eigen values greater than 1.00 and explain 62.3 per cent of the overall variance. The reliability test revealed Cronbach’s alpha greater than 0.8 for auditing, fraud and forensic accounting factors while perceived coverage of fraud education has an acceptable alpha of 0.6.

**Table 4: Mean and Standard Deviation of Independent Variables**

	N	Mean	Std. Deviation
<b>Auditing</b>	244	4.19438	.714242
<b>Fraud</b>	244	3.69098	.839606
<b>Forensic Accounting</b>	244	3.45615	.817556

**Note:**  
The mean response is a weighted average of the individual responses on a six-point scale of 1 = strongly disagree to 6 = strongly agree

The cut-off point for evaluation of insufficient fraud education is the 4<sup>th</sup> scale (Slightly Agree). The 4<sup>th</sup> scale was selected as it is an indicator that students are not confident enough to rate 5<sup>th</sup> (Agree) and 6<sup>th</sup> (Strongly Agree) scale. Data that lie on 4<sup>th</sup> scale and below signified that students did not fully achieved the learning objectives set under areas of auditing, fraud and forensic accounting. Usage of mean is viable for determination of sufficiency albeit a high standard deviation which suggest a disperse data because it might possibly imply there is inconsistency in the teaching areas of fraud education among students. As stated by Peterson (2004), topics in fraud courses have varied given that there is still insufficient available teaching material to date. Even with high deviation from the mean, the fact that averaging out data would still produce a mean lower than a cut-off point, it will be solid to state an insufficiency in the variable.

Based on table 4, auditing reported a mean of 4.19 which is higher than the cut-off point 4. Since it reflects that the students fairly agree on the learning objectives in auditing, it can be concluded that **H1 is rejected**. There is sufficient coverage in the areas of auditing though the mean barely exceeded 4<sup>th</sup> point, similar to research that found exposure to auditing is at a basic level in universities (Carnes and Gierlasinski, 2001).

Fraud and forensic accounting variables illustrated a notably lower mean compared to the cut-off point. With a mean of 3.69 and 3.45, it is a clear implication that the students have low agreement on the learning objectives in fraud and forensic accounting, hence proving an insufficient coverage in both variables. Therefore, **H2 and H3 are supported**. This verifies that ‘traditional business and accounting curriculums devote very little time to fraud education’ (Shinde *et al*, 2011).

**Table 5: Regression 1**

Model	Adjusted R Square	F	Beta	t	Sig.
<b>1</b>	<b>.092</b>	25.623			
<b>(Constant)</b>				4.999	.000
<b>Sufficiency of Fraud Education</b>			.309	5.062	.000

Dependent variable: Perceived coverage of Fraud Education

Model	Unstandardized Coefficients	
	B	Std. Error
(Constant)	1.528	.306
Sufficiency of Fraud Education	.404	.080



The adjusted  $R^2$  determines the relationship between the independent variable and dependent variable. Table 5 shows a significantly low adjusted  $R^2$  of 0.092 which indicates the extent to which the dependent variable is predictable. Regression 1 equation:  $\hat{Y} = 1.528 + (0.404) X1$

Although output indicates low  $R^2$ , the p-value is significant with  $p < 0.01$  at significant level of 5%. Therefore, **H4 will not be rejected** as it also has a moderately high F-value (25.623) showing a relationship between the variables. A low  $R^2$  is still acceptable in this research as there are other contributing factors not considered. In this case, other factors include internship and type of higher institution (public and private) differences. Table 6 proves that  $R^2$  increased to 0.206 after including these contributing factors. Although  $R^2$  is still low, that does not mean there is no significant relationship among three independent variables and the dependent variables. The low value could possibly due to variation in behavioral patterns of student's individual learning capability and syllabus among universities or any other unconsidered factors, regardless there is still a perceived insufficient coverage of fraud education.

Regression 2 equation:  $\hat{Y} = 1.231 + (-0.568) X1 + (0.408) X2 + (0.403) X3$ .

**Table 6: Regression 2**

Model	Adjusted R Square	F	Beta	t	Sig.	Unstandardized Coefficients	
						B	Std. Error
1	.206	21.955					
(Constant)				2.881	.004		
Sufficiency of Fraud Education			.313	4.738	.000		
<b>Do or do not undergo internship</b>			<b>-.342</b>	<b>-5.516</b>	<b>.000</b>		
<b>Public or Private University</b>			<b>.242</b>	<b>3.646</b>	<b>.000</b>		
(Constant)						1.231	0.427
Whether the respondents have undergone internship programs (X1)						-0.568	0.103
Sufficiency of Fraud Education (X2)						0.408	0.086
Public or Private University (X3)						0.403	0.11

Dependent variable: Perceived coverage of Fraud Education

### Nonparametric test (Mann-Whitney & Wilcoxon test)

A nonparametric test, analogous to the parametric two-sample t-test is used to analyze the frequencies between variables contributing factors (higher institutions and internship).

Referring to table 7, the study reveals that majority students of higher institution (public and private) have the least amount of knowledge regarding the concepts and understanding of red flags (A7) in the auditing areas with the lowest mean of 4.07. This indicates that although overall auditing topics are considered sufficient, areas in red flags topics should be improved. Students with fraud examination background have doubts in determining situations of fraudulent activities in workplace (B10)(mean=3.60). In areas of forensic accounting, results shows students are least exposed to forensic accounting evidence collection, criminology and cybercrimes IT systems (C14)(mean=3.29). Accounting students from both private and public institutions agree that their current accounting degree provided them with insufficient skills in forensic accounting (D3)(mean=2.53). Students also perceived that their accounting degree provided insufficient fraud detection skills (D2)(mean=3.19). This supported Caliyurt and Crowther (2006) findings that only half of academicians teach fraud in their courses. A similar conclusion was reached in a study of Rezaee and Burton (1997) groups of practitioners and academicians agree that current accounting curriculum is not sufficiently responsive. Therefore, there is some evidence of alignment between a lax of education in these areas in the accounting curriculum and the perceived coverage.

**Table 7: Mean and significance of most insufficient topics of Auditing, Fraud examination and Forensic Accounting areas in institutions.**

		<b>A7</b> Red flags that indicates fraud in financial statement	<b>B10</b> The situations of fraud in the workplace	<b>C14</b> Ways in which IT systems are used for fraud and cyber-crimes	<b>D3</b> Sufficient skills in forensic accounting before graduation.
<b>Type of Institution</b>					
Public	Mean	<b>3.92</b>	<b>3.07</b>	<b>2.81</b>	<b>2.73</b>
	N	112	112	112	112
	Std. deviation	.912	.975	.855	.958
Private	Mean	<b>4.20</b>	<b>4.05</b>	<b>3.69</b>	<b>2.36</b>
	N	132	132	132	132
	Std. deviation	.939	.987	1.120	1.186
Total	Mean	<b>4.07</b>	<b>3.60</b>	<b>3.29</b>	<b>2.53</b>
	N	244	244	244	244
	Std. deviation	.936	1.094	1.096	1.101
	Asymp. Sig. (2-tailed)	.009	.000	.000	.004
<b>Internship Program</b>					
Yes	Mean	<b>4.31</b>	<b>3.98</b>	<b>3.40</b>	<b>2.90</b>
	N	112	112	112	112
	Std. deviation	.849	.986	1.086	1.131
No	Mean	<b>3.87</b>	<b>3.27</b>	<b>3.19</b>	<b>2.21</b>
	N	132	132	132	132
	Std. deviation	.960	1.078	1.099	.973
Total	Mean	<b>4.07</b>	<b>3.60</b>	<b>3.29</b>	<b>2.53</b>
	N	244	244	244	244
	Std. deviation	.936	1.094	1.096	1.101
	Asymp. Sig. (2-tailed)	.000	.000	.102	.000

**Note:** The mean response is a weighted average of the individual responses on a six-point scale of 1 = strongly disagree to 6 = strongly agree

**Table 8: The mean rank of most insufficient topics of Auditing, Fraud examination and Forensic Accounting areas in public and private institutions.**

Topic	University	N	Mean	Sum of	Internship programs	N	Mean	Sum of
			Rank	Ranks			Rank	Ranks
A7 Red flags that indicates fraud in financial statement	Private	132	132.66	17511.00	Yes	112	139.72	15648.50
	Public	112	110.53	12379.00	No	132	107.89	14241.50
	Total	244			Total	244		
B10 The situations of fraud in the workplace	Private	132	150.81	19907.00	Yes	112	146.08	16361.00
	Public	112	89.13	9983.00	No	132	102.49	13529.00
	Total	244			Total	244		
C14 Ways in which IT systems are used for fraud and cyber-crimes	Private	132	147.99	19534.50	Yes	112	130.17	14579.50
	Public	112	92.46	10355.50	No	132	115.99	15310.50
	Total	244			Total	244		
D3Sufficient skills in forensic accounting before graduation.	Private	132	111.06	14659.50	Yes	112	144.71	16207.50
	Public	112	135.99	15230.50	No	132	103.66	13682.50
	Total	244			Total	244		

Table 8 shows that these areas of auditing, fraud examination and forensic accounting have the most significant difference between public and private universities. There are overall 20 topics that prove significant differences. However, only four topics with lowest mean state the significant insufficiency difference between higher institutions. These topics support the claim that difference in higher institutions affects student's perception of the overall coverage of fraud education. Although public and private institutions agree on most insufficient topics, there are some results which differ in terms of perceived sufficiency. In auditing areas, private

institutions show greater understanding in concepts of **red flags (A7)** compared to public institutions. The results state, mean rank for private universities are higher than public universities for fraud examination areas. Mann-Whitney mean rank proves that majority of private university accounting students are more equipped in understanding in fraud topics and **identifying fraudulent activities in workplace (B10)**. On the issue of forensic accounting, mean rank consist of majority private university students which indicates more exposure in areas of **Criminology cyber-crimes IT system (C14, C15)** compared to public university students. Nevertheless, it could be a variable of internship that allows private students to agree on certain learning objectives more than public. Hence, the degree of student's exposure to areas of fraud education can be measured upon internship process.

**Table 9: Mean and significance of Fraud Education topics among students who went for internship and no internship.**

	A1 Auditing and accounting issues related to business environment	A2 The major areas of financial statement fraud	A3 Various fraud schemes based on fact patterns and likelihood of occurrence	B7 Ability to evaluate specific fraud schemes	B8 Creative thinking and problem solving skills in fraudulent situation	B9 Good anti- fraud environment	B11 The difference s between fraud and errors in evidences collected	C15 The nature and dynamics of fraud and financial crimes
Mann-Whitney U	5707.00	6259.50	6229.50	5292.00	4968.50	4907.00	4654.50	6827.00
Wilcoxon W	14485.00	15037.50	15007.50	14070.00	13746.50	13685.00	13432.50	15605.00
Z	-3.278	-2.196	-2.291	-4.011	-4.568	-4.728	-5.200	-1.080
Asymp. Sig.(2-tailed)	.001	.028	.022	.000	.000	.000	.000	.280*
Internship	4.60	4.47	4.23	4.01	3.98	3.98	4.24	3.42
No Internship	4.19	4.18	3.98	3.48	3.34	3.35	3.53	3.27

**Note:** Grouping Variable **Internship Program**

\* C15 insignificant but lowest in mean (lowest in sufficiency)

The findings of a research project by Lucas and Tan (2007) indicate that work-based placement learning has an important role to play in the development of a reflective capacity in the curriculum. It appears to contribute to improved academic performance in the final year of students' undergraduate studies. This proves the significance difference among students with internship experience have a much greater mean rank in dealings with most fraudulent activities compared to students without internship experience. The highest significance was prominent in auditing issues related to **business environment (A1)**, **financial statement fraud (A2)** and **fraud occurrence (A3)**. Students with internship background will perceive these auditing topics as sufficient in the accounting curriculum (mean>4), while students without internship background will perceive otherwise (**A3** mean<4). Although low mean are recorded for areas in fraud, its p<0.05 at significant level of 5% indicates internship students understanding in fraud areas such as **fraud scheme evaluation (B7)**, **problem solving skills in fraudulent situations (B8)**, **anti-fraud environment (B9)** and **fraud evidence collection (B11)** are significantly higher.

Overall, internships students achieve greater mean ranks. Certainly, accounting students with internship experience will potentially acquire more education in terms fraudulent disclosure and skills developed to fraud dealings in work-based placement learning. However, both internship and non-internship students indicate insufficiency level of education in **dynamics of**

**fraud and financial crimes (C15)** mean=3.42 and 3.27. Findings recorded that 61.4% (majority) of private university students went for internships and 38.6% (minority) vice versa. Conversely, only 27.7% (minority) of public university students have internship experience while majority did not. The results are consistent with the fact that students with internship backgrounds would perceive the coverage of fraud education to be adequate.

**Table 10: Mean and significance of unethical conduct among students**

<b>Type of Institution</b>		<b>E3 I will obey my superior's orders if it does not harm others</b>	<b>E5 I would do anything just to be accepted by my peers</b>
Public	Mean	3.67	3.85
	N	112	112
	Std. deviation	1.110	1.179
Private	Mean	4.16	3.37
	N	132	132
	Std. deviation	1.090	1.250
Total	Mean	3.93	3.59
	N	244	244
	Std. deviation	1.124	1.239
	Asymp. Sig. (2-tailed)	.000	.009

The ethical conduct of accounting students sampled will be determined by a benchmark of 3<sup>rd</sup> point (Slightly Disagree). 4<sup>th</sup> point (Slightly Agree) and above reveals an intention to agree towards certain unethical behavior.

The ethics significance results show accounting students highest agreement **to do anything to be accepted by peers (E5)** in both private and public institution (mean= 3.59). Synonymous with the findings of (Rhode and Packel, 2009), individual's ethical conduct is highly influential on different situations. The results imply that students would do anything, possibly committing fraud just to fit into a social context. The next highest significance would be to **obeying superior's order if it doesn't harm anyone (E3)** with (mean = 3.39). Corresponding to the insufficient knowledge to identify fraud in the workplace (B10), the fact that students will comply to superior's order, this presents a disturbing effect. As discovered by ACFE, most fraud happens at top-level. Public university students are more unethical in terms of being highly influential as the mean for **E5** (3.85) is higher than private university students. Likewise, private universities have higher agreement to **E3** (4.16) and public university students vice versa. This result proves that students are easily influenced by the environment and surroundings. Colleagues and superiors can influence student's judgment in ethical decision making. Although the proposed code of ethics is important, the problem is that there is no guarantee that members of the profession will comply with the code. Hence, it also supports the view of Jackling *et al* (2007) that it is questionable that ethics education has an ongoing benefit once graduates enter the workforce.

## 5. RECOMMENDATIONS

The crisis that accounting profession is going through is welcoming an opportunity upon which academia and the corporate world can capitalize substantive course and curriculum change to increased interaction, reducing the likelihood of fraudulent issues in the future. Rezaee and Burton (1997) declared that the current initiatives in the accounting education provide accounting programs with only the basic knowledge acquisition of fraud-base education to future accountants. Institutions and academicians are encouraged to develop a better

curriculum using University of West Virginia model curriculum of fraud education (Diagram 1). The dynamic combination is essential to facilitate a fraud-based learning environment. In addition, education in these three areas will equip accounting students with skills required for an accounting professional. Students would be able to leverage these skills and abilities that were provided in multiple areas to efficiently promote fraud detection.

Fraud and forensic accounting courses can substantially inhibit activities of fraud triangle components which consist of pressure, opportunity and rationalization (Titard *et al.*, 2004). By improving fraud education coverage, it will improve the quality of knowledgeable accounting graduates that proficiently combats and detects fraudulent activities. Opportunities to perform fraud will be significantly reduced with more fraud detectives. Leaders in accounting profession have recognized that accounting students need fraud-specific education in order to be effective in combating fraud courses in financial accounting and auditing by itself does not provide the sufficient training that accounting students need to understand fraud and its deterrence (Seda, 2008).

According to the findings of this paper, areas of fraud and forensic accounting must be improved. Higher learning institutions are recommended to incorporate appropriate fraud and forensic accounting modules to further develop the current accounting curriculum to society's demand for well-equipped accounting graduates. Although, auditing topics are sufficient, there are some areas which can be further enhanced such as the understanding of red flags concepts in financial statement (A7) and identifying various fraud schemes based on fact patterns and likelihood of occurrence (A3). Lee (2012) described that recognizing red flags is a challenging task even for auditors.

From the results of fraud and forensic areas, current education should consider extending topics in identifying fraudulent situations (B10), procedures in solving fraudulent issues (B8), using IT systems for cyber-crime fraud (C14), and understanding the nature of financial crimes (C15). With evolving technology in today business world, it is imperative that skills to detect cyber fraud. To help address this deficiency, developing a specific course enriched with these areas will positively impact undergraduates' abilities to provide well informed fraud-risk assessments beyond a typical audit procedure (Carpenter *et al.*, 2011). Besides, an effective fraud education can be further upgraded with the continuing ethics courses provided as well as current work-based placement learning that is provided by higher institutions.

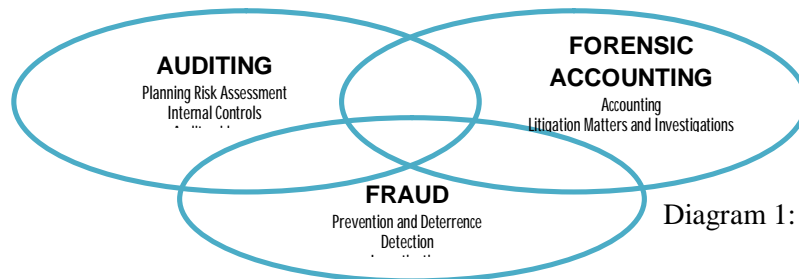


Diagram 1: Model Curriculum

## 6. LIMITATIONS

While sampling was random, in an attempt of representation, it is not claimed that these views are indicative of the views of all final year accounting students. Due to the limited observations on only six higher institutions in Malaysia, targeted samples may not be an accurate representation of population. Therefore, interpreting the data and findings was done cautiously

to compensate generalized responses. As a means of data collection, questionnaire response rates may be affected by negative or apathetic attitudes towards this form of data collection particularly in large higher-learning institution. Hence, non-response bias in results is inevitable. In addition, providing homogeneous subjects in auditing, fraud and forensic accounting areas may also have systematic biasness in terms perception to the relevance and coverage of fraud education. However, significance proved otherwise. There is also a possibility that the learning objectives suggested in the subject areas do not represent all required objectives that should be covered in fraud education. Finally, the demographic data could have included information on prior life experiences that may have influenced respondent's perceptions of the required knowledge on fraud education. While perception of learning may be subjective and differ due to learning abilities, selection of only final year accounting students minimized the gap in perception as final year undergraduates who are in reputable institutions in Malaysia should have demonstrate reasonable and sound knowledge of their education.

## 7. CONCLUSION

The paper revealed a flaw in Malaysian accounting education in its responsiveness towards the demands of the industry. The accounting curriculum has gone obsolete and produces 'factory-made' accounting graduates. Accounting undergraduates have insufficient knowledge and skills to face any incoming frauds after they graduate, particularly forensic accounting. The manifestation of accounting scandal has led a focus on ethics education which is not sufficient to prevent fraud. Fraud education will increase the vulnerability of undetected fraud, as asserted by Caliyurt and Crowther (2006) that accountants who had fraud education will likely detect a fraud.

It is time for the accounting education to create a generation of fraud detectives and shifting auditors' role of 'watchdogs' to 'bloodhounds'. As presented in this research, the insufficiency in fraud and forensic accounting has to be acknowledged. The fact that accounting students agreed that their accounting degree had not provided sufficient coverage in forensic command an attention of educators to improve the curriculum. It is critical that accounting students to be armed with the necessary skills to recognize fraud when they graduate. Fraudsters will think twice before performing fraud when accountants have solid foundation of fraud detection skills. Ethics courses will complement fraud education to producing graduates who are well-verse in both prevention and detection methods, hence introducing a whole new era of fraud busters.

Henceforth, fraud education will drive businesses to achieving a potential fraud-free future. This research will be a stepping stone for further research to determine the effectiveness of incorporating fraud and forensic accounting in the accounting curriculum.

## 8. REFERENCES

- Albrecht, W.S and Sack, R.J. (2000). 'Accounting Education: Charting the Course through a Perilous Future'. *Journal of Accounting Education Series*. Vol.16, pg 7-10.
- Albrecht, W.S. (2005). *Identifying Fraudulent Financial Transactions: A Framework for Detecting Financial Statement Fraud*. Brigham Young University.

- Armstrong, M.B., Ketz, J.E and Owsen, D. (2003) 'Ethics education in accounting: moving toward ethical motivation and ethical behavior'. *Journal of Accounting Education*. 21, pp.1-16
- Association of Certified Fraud Examiners (ACFE). (2010). 'Report to the Nations on Occupational Fraud and Abuse'. *2010 Global Fraud Survey*.
- Bernama. (2008). 'Almost 80 Pct Fraud Cases Are Not Reported Every Year: ACFE'. *Bernama Business News*. Viewed on 13 April 2012, <<http://finance.bernama.com/news.php?id=307813&vo=16>>.
- Caliyurt, K.T. and Crowther, D. (2006). 'The Necessity of Fraud Education for Accounting Students: A research Study from Turkey'. *Social Responsibility Journal*. 2, pp.321-322, 325-326.
- Carnes, K.C and Gierlasinski, N.J. (2001). 'Forensic Accounting Skills: will supply finally catch up to demand'. *Journal of Managerial Auditing*. 16, pp.380-381.
- Carozza, D. (2002). 'Accounting Students Must Have Armor of Fraud Examination'. *The White Paper: Topical Issues on White-Collar Crime*. 16, pp.30-33.
- Carpenter, T.D., Durtschi, C., and Gaynor, M. (2011). 'The Incremental Benefits of a Forensic Accounting Course on Skepticism and Fraud-Related Judgments'. *Issues in Accounting Education*. 26(1), pp.1-21.
- Crane, A. and Matten, D. (2010). *Business Ethics*. 3<sup>rd</sup> ed. Bath: Great Britain: Oxford.
- Cressey, D. (1973). *Other People's Money*, Patterson Smith, New York, NY.
- Jackling, B., Cooper, B.J., Leung, P., and Dellaportas, S. (2007). 'Professional accounting bodies perception of ethical issues, causes of ethical failure and ethics education'. *Managerial Auditing Journal*. 22, pp.2-7.
- Klimek, J. and Wenell, K. (2011). 'Ethics in accounting: an indispensable course?'. *Academy of Educational Leadership Journal*. 15(4), pp.107-118.
- Koh, A.N., Arokiasamy, L. and Lee, C.A.S. (2009). 'Forensic Accounting: Public Acceptance towards Occurrence of Fraud Detection'. *International Journal of Business and Management*. 4(11), pp.145-149.
- KPMG. (2009). *Fraud Survey Report 2009*. KPMG, Malaysia.
- Kroll. (2011). 'Global Fraud Report'. *2011/2012 Kroll Global Fraud Report Survey Executive Summary*. Viewed on 12 April 2012, <[http://cism.my/upload/article/201107271245340.FraudReport\\_English-US\\_Oct10.pdf](http://cism.my/upload/article/201107271245340.FraudReport_English-US_Oct10.pdf)>.
- Lee, E. (2012). 'Sniffing Out Fraud'. *Accountants Today*. p.27.
- Lucas, U, and Tan, P.L. (2007). 'Developing A Reflective Capacity Within Undergraduate Education: The Role of Work-Based Placement Learning' *The Higher Education Academy Journal*. pp.74.

- McNeil, I. (1992). 'Ruling out an Academic Argument'. *The Times*, p.27.
- Mohamed Saat, M. (2010). *An Investigation of the Effects of a Moral Education Program on the Ethical Development of Malaysian Future Accountants*. PhD Thesis. Curtin University of Technology.
- O'Leary, C. and Cotter, D. (2000). 'The ethics of final year accountancy students: an international comparison' *Managerial Auditing Journal*. 15, pp.3-5.
- Peterson, B. K. (2004). 'Education as a New Approach to Fighting Financial Crime in the USA'. *Journal of Financial Crime*. 11, pp.262-266.
- Peterson, B.K. (2003). 'Fraud Education for Accounting Students'. *Journal of Education for Business*.
- Peterson, B.K. and Reider, B. (1999). 'Fraud Education of Accounting Students: A Survey of Accounting Educators'. *The National Accounting Journal*. pp.23-30.
- Public Oversight Board. (2002). 'Public Oversight Board Staff Status Report: The Recommendations of the Panel on Audit Effectiveness.' *Recommendation to the Auditing Standards Board*. Viewed on 5 May 2012, <<http://www.publicoversightboard.org/StatusReport.pdf>>.
- Rezaee, Z. and Burton, E.J. (1997). 'Forensic Accounting Education: Insights from Academicians and Certified Fraud Examiner Practitioners'. *Managerial Auditing Journal*. 12(9), pp.479-483.
- Rhode, D.L and Packel, A.K. (2009). 'Ethics and Nonprofits'. *Stanford Social Innovation Review*. pp.29-31.
- Seda, M. and Peterson, B.K (2008). 'The Emergence of Forensic Accounting Programs in higher education'. *Journal of Management Accounting Quarterly*. Pp.1-2.
- Shinde, J., Poznic, G., Buehne, A., and Shinde, U. (2011). 'Auditor Faux Pas and Managerial Fraud at McKesson and Robbins: A Preliminary Study'. *Journal of Accounting and Finance*. 11(1), pp.40-49.
- Sidhu, B.K. (2007). 'Punish those who manipulate accounts'. *The Star*. Viewed on 2 April 2012, <<http://biz.thestar.com.my/news/story.asp?file=/2007/5/31/business/17892307&sec=business>>.
- Singh, R. (2008). 'Insurers lose RM500m a year to bogus claims'. *New Straits Times*.
- Smith, G.S. and Crumbley, D.L. (2009). 'How Divergent Are Pedagogical Views Toward The Fraud/Forensic Accounting Curriculum?'. *Global Perspectives on Accounting Education*. 6, pp.1-24.



- Titard, P.L, Braun, R.L, and Meyer, M.J. (2004). 'Accounting Education: Response Corporate Scandals'. *Helping the profession find opportunity in crisis*. Viewed on 16 April 2012, <<http://www.journalofaccountancy.com/Issues/2004/Nov/AccountingEducationResponseToCorporateScandals.htm>>.
- U.S. Department of Justice. (2007). *Education and Training in Fraud and Forensic Accounting: A Guide for Educational Institutions, Stakeholder Organizations, Faculty and Students* (Washington, D.C.).