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Internal Auditors' Performance In Fraud Detection In Ghana: Do Control Environment And Gender Matter?

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Abstract: *The objective of the study was to examine the effect of gender and control environment on internal auditors' performance in fraud detection in Ghana using* a sample of 260 internal auditors. *A structural equation model (SEM) was used for the study and Amos 23 software (students' version) was used for the analysis of the data. The results and analysis of this study disclosed that control environment, gender of the internal auditor, certification, mentoring, and data analysis skills. The study recommended thatmanagement should give their maximum support to internal auditors bytaking actions promptly on the recommendations that internal auditors give in the course of discharging their duties. The studyalso recommends that management should encourage the internal auditors to professionally upgrade themselves.*

I. Background of study

The contributions of economic entities to the development of countries in the global world cannot be overemphasized as most economic functions are being performed by business entities in their respective countries. Therefore, ensuring the success and sustainability of business entities is a major concern of various stakeholders such as governments and academicians. One of the major factors that is negatively affecting the success of business organizations the world over is fraud (Anuj & Panigrahi, 2012). Large frauds have led to the downfall of entire organizations, massive investment losses, significant legal costs, incarceration of key individuals, and erosion of confidence in capital markets. Publicized fraudulent behaviour by key executives has negatively impacted the reputations, brands, and images of many organizations around the globe and especially Ghana.ACFE global survey (2014) reported that the survey participants estimated that the typical organization loses 5% of revenues each year to fraud. This translates to a potential projected global fraud loss of nearly $3.7 trillion when applied to the 2013 estimated Gross World Product. In Ghana, fraud has been on the increase. Year after year millions of Ghanaians taxpayers' money goes down the drain. Data from the Auditor Generals department shows that the summary financial irregularities in Ghana from 2009 to 2012 were GHS 53,024,986, GHS 173,174,541, GHS 119,488,756.04 andGHS 395,718,552.01 respectively.

Ability to detect fraud and manage fraud will help firms to attain their goals and promote accountability of fiduciaries for resources entrusted to them.With an upsurge of fraud in the current economic scenario, fraud detection has received considerable attention from the investors, academic researchers, media, the financial community and regulators (Anuj & Panigrahi, 2012). The need to detect and prevent fraud has given rise to an adequate attention given to internal auditors in most organisations as internal audit is now regarded as the most effective corporate control available to management to address the threat of fraud (Salem, 2012).Even though, the primary responsibility for the prevention and detection of fraud rests with those charged with governance of the entity and with management (Chau&Yuen, 2011),International Professional Practice Framework (IPPF) standard 2120.A2 and 2210.A2 require internal auditors to evaluate the potential for fraud occurrence and its management as well as considering the probability of fraud exposures.

Increasing number of researchers have tried to assess the determinants of internal auditors' performance in fraud detection (Bonner & Lewis, 1990; Libby &Luft, 1993; Libby & Tan, 1994; Mui, 2009, 2010). For instance, while Libby and Tan (1994) concentrated on knowledge, experience and ability with expert performance in general audit tasks, Bonner and Lewi (1990) also expanded it by including problem solving abilities such as the ability to recognize relationships, interpret data and analytical reasoning. Recent studies conducted by Mui (2010) in Australia disclosed that auditor's performance in fraud detection is determined by practical experience, mentoring, certification, continuous learning, technical skills, data analysis skills, analytical reasoning, ability to work within a team, communication skills, and an effective control environment. The model further asserts that there is a positive relationship between each of these determinants and expert performance in fraud detection.

However, like any risk related activities, demographic variables such as gender play a role in fraud detection. For instance, male internal auditors are more likely to detect fraud than female auditors as females are found to be more risk averse (Asante & Baba, 2011).Also,to the best of our knowledge, in the context of Ghana, there is no study oninternal auditors' ability to detect fraud using structural equation model.

Objective of the study

The general objective of the study was to examine the effect of gender and control environment on internal auditors' performance in fraud detection in Ghana.

Review of Related Literature

Nature of fraudFrom auditing perspective, Duffield and Grabosky (2001) defined fraud as an act involving deceit such as intentional distortion of the truth or misrepresentation or concealment of a material fact to gain an unfair advantage over another in order to secure something of value or deprive another of a right. It occurs when a perpetrator communicates false statements with the intent of defrauding a victim out of property or something of value (Vasiu&Vasiu, 2004). Louwers (2007) added that fraud consists of knowingly making material misrepresentation of fact, with the intent of inducing someone to believe the falsehood and act on it and suffer a loss or damage. International Auditing Standard (ISA, 240) also defines fraud as 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.

From the forgoing definitions fraud can be said to be the use of one's occupation for personal enrichment through the deliberate misuse or misapplication of the employment of organisation's resources or assets.

Fraud detection task

Fraud detection is the identification of actual or potential fraud within an organisation. It relies upon the implementation of appropriate systems and processes to spot the early warning signs of fraud. Fraud detection task is an unstructured task that has an impoverished learning environment (Mui, 2010; Libby & Tan, 1994; Libby &Luft, 1993). Libby and Tan (1994) posited that fraud detection has an impoverished learning environment because: (1) auditors generally have minimal experience with the fraud detection task compared to other audit tasks; and (2) auditors have minimal opportunity to acquire fraud detection knowledge through structured sources. Asan unstructured task,fraud detection requires the auditor to: (1) develop alternative methods to detect fraud; (2) obtain information from disparate sources; and (3) think outside the box in selecting from alternative methods of detecting fraud.

Measuring auditor expert performance in fraud detection

The determinants of auditor expert performance in fraud detection are theorised in the model of expert performance in fraud detection proposed by Mui (2009). This model is composed of: (1) the determinants of auditor's performance in audit tasks other than fraud detection established in literature (Bédard& Chi, 1993; Bonner & Lewis, 1990; Libby &Luft, 1993; Moyes&Anandarajan, 2002; Moyes&Hasan, 1996; Shanteau, 1992; Shanteau, Weiss, Thomas, & Pounds, 2002; Tan &Libby, 1997); and (2) the determinants unique to the fraud detection task identified in an interview study by Mui (2009). In interview study, Mui (2009) established that the determinants of auditor expertise for audit tasks other than fraud detection that were established in the abovementioned literature - namely, certification, continuous learning, practical experience, analytical reasoning, data analysis skills, communication skills - are also applicable to the fraud detection task. Further, the fraud detection task requires the internal auditor to possess unique capabilities in addition to the determinants established in the literature - namely, mentoring, technical skills, and the ability to work within a team (Mui, 2009). In addition to these determinants that are inherent to the individual internal auditor, the Mui (2009) study also identified that the ethical or unethical atmosphere in the organisation in which the internal auditor performs audit work impacts on the internal auditor's fraud detection capabilities. Following is the description of the various determinants of fraud detection.

II. Methodology

This section presents the discussions on the study area, population, sample and sampling procedure and data analyses.

The study area

The study was conducted in Ghana, a sovereign multinational state located along the Gulf of Guinea and Atlantic Ocean, in the sub-region of West Africa. Ghana has a population of approximately 27 million, from a variety of ethnic and religious groups spread across its 216 districts in ten regions (Ghana Statistical Service, 2014). Ghana recognizes internal audit as a means of promoting good governance and ensuring accountability of fiduciaries for resources entrusted them. Realizing the role of internal audit in fraud management in the various sector, the government of Ghana in 2003 enacted the Internal Audit Agency Act, 2003 (Act 658), to ensure that the public service agencies use acceptable procedure in managing funds.

The increasing focus on effectiveness of internal audit in fraud and risk management practices has led to the changing scope and size of internal audit, and the establishment of internal audit functions in a growing number organisation (IIA, 2015) and the establishment of various institutions such as Institute of Internal Auditors Ghana and Institute of Charted Accountants Ghana to provide, promote, and sustain Internal auditing in Ghana.

Target population

The target population for this study comprised all internal auditors of the Institute of Internal Audit Ghana (IIAG). Membership of the IIAG totaled 882, grouped into six categories namely: telecommunication, energy and petrol, professional services, education, banking and financial services.

Sample and sampling procedure

Sampling is the use of statistical techniques to select a representative portion of an entire population of interest (Selltiz, Wrightsman& Cook, 1976). Since coverage of entire population of IIAG was not possible, sample was therefore drawn from the population for the study. Krejcie and Morgan's (1970) table for determining sample size from a given population was used to arrive at an initial sample size of 269. Proportionate stratified sampling technique was then used in computing the sample size for each of the six categories of membership.Finally, simple random sampling was used to select 260 internal auditors resulting in about 97% response rate.

Data collection and Reliability testing

Data on population, and membership of IIAG was obtained from secondary sourcesincluding related published and unpublished material from the internet and journals. Data on internal auditor's performance in fraud detection was obtained from a primary source which was self-administered questionnaires, completed by internal auditors of the Institute of Internal Auditors Ghana.The Cronbach's α values of the nine observablevariables and one latent variable in this study are in the range of 0.74 to 0.91, allof which are above 0.7, and are consistent with the suggested level of 0.7 byPallant (2007). Therefore it was concluded that the scale has overall stability and consistency.

III. Results and discussions

Structural equation model (SEM) was used for the study and Amos 23software (students' version) was used for the analysis of the data. The Chi-square value for the study is 1528.249, and is significant at 5% (the p value is 0.000). Also, a comprehensive evaluation of other indicators such as GFI, RMR and RMSEA suggested that the model fitness can be accepted. The values for the indicators are GFI=0.840,RMR=0.041, RMSEA=0.05, all of them are acceptable and theysuggest that the model fitness can be accepted.

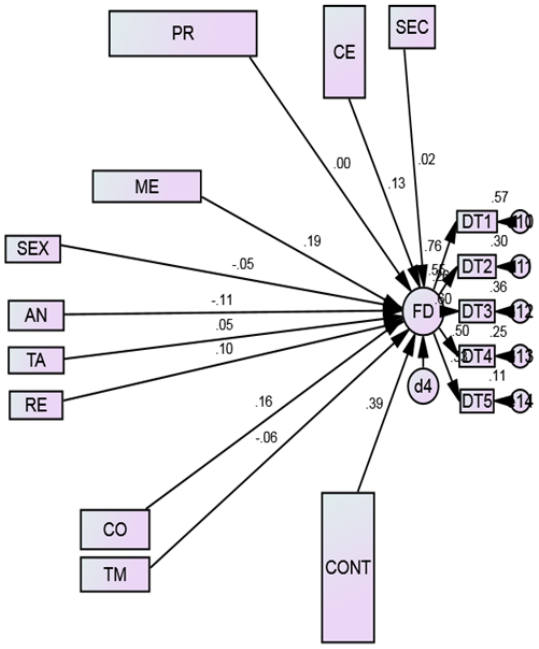

Figure 1: Structure theory equation model

Where **FD** represents auditor's performance in fraud detection, **CONT** represents control environment, **TM** represents team work, **CO** represents communication, **RE** represents analytical reasoning, **TA** represents technical skills, **AN** represents data analysis skills, **SEX** represents sex of the internal auditor, **ME** represents mentoring, **PR** represents practical on-the-job experience, **CE** represents certification and **SEC** represents type of organisation in which the internal auditor works.

Table 1: Maximum Likelihood Estimates for determinants of internal auditors' performance in fraud detection

			Estimate	S.E.	C.R.	P	Label
FD	<---	CONT	.060	.010	5.799	.000	
FD	<---	CE	.028	.014	1.967	.049	
FD	<---	PR	.001	.016	.063	.949	
FD	<---	ME	.031	.011	2.858	.004	
FD	<---	SEX	.050	.021	2.405	.016	
FD	<---	TM	-.015	.018	-.853	.393	
FD	<---	AN	-.052	.030	-1.719	.086	
FD	<---	TA	.012	.015	.814	.416	
FD	<---	RE	.020	.013	1.505	.132	
FD	<---	CO	-.124	.160	-.773	.440	
FD	<---	SEC	.014	.048	.288	.773	
FD1	<---	FD	1.000				
FD2	<---	FD	.562	.065	8.621	.000	
FD3	<---	FD	.646	.066	9.744	.000	
FD4	<---	FD	.498	.064	7.739	.000	
FD5	<---	FD	.305	.063	4.871	.000	

The figure 1 above shows thatcontrol environment has a positive correlation with internal auditor's performance in fraud detection and it is significant at 1% level of significance (p-value=0.000). The coefficient value is 0.39 indicating that the association between control environment and internal auditor's performance in fraud detection is not all that strong. Table 1 also shows that control environment has a significant effect on fraud detection. The regression coefficient of control environment is 0.06. This implies that as the level of control environment in an organization increases the probability of an internal auditor to detect fraud increases by 6%. This result is in consistence with the findings of Mui (2010). According to Mui (2010) the external factor- an effective control environment - contributed to expert performance in fraud detection but had a weaker impact on expert performance in fraud detection in comparison with the individual auditor's inherent fraud detection capabilities.

The result shown in figure 1 and Table 1 disclosed a positive relationship between certification and auditor's performance in fraud detection. The coefficient of correlation for certification is 0.13 suggesting a weak correlation. At 5% level of significance, certification had a significant positive effect on auditor's performance in fraud detection (p-value=0.049). The regression coefficient of certification is 0.028. This means that the probability of an internal auditor who has acquired professional education in auditing detecting fraud increases by 2.8%. This result is contrary to the findings of Mui (2010) who found a negative relationship between professional certification and expert performance in fraud detection. Another variable that had a significant relationship and effect on auditor's performance in fraud detection is mentoring. Mentoring also had a positive relationship with internal auditor's performance in fraud detection. Mentoring had a significant positive effect on auditor's performance in fraud detection at 1% level of significance (p-value=0.004). The regression coefficient of mentoring is 0.031 suggesting that the probability of an internal auditor who has a professional mentor detecting fraud increases by 3.1%. The result obtained for mentoring corroborate with that of Mui (2010) who found that mentoring was most effective when an irregularity was found and assessed. The study introduced one demographic variable, gender, in the auditors' performance in fraud detection model. There was a statistically significant positive correlation between gender (male dummy) and internal auditor's performance in fraud detection. The regression coefficient of gender 0.05 is significant at 5% level of significance. The implication is that the probability of a male auditor detecting fraud increases by 5%. Lastly, the result also revealed that data analysis skills had a significant negative relationship with internal auditors' performance in fraud detection. However, it was only significant at 10% level.

IV. Conclusion and Recommendation

Based on the findings of the study, it can be concluded that the gender of the internal auditor, control environment, professional certification, mentoring, and data analysis skills are the key factors that affect internal auditors ability to detect fraud. As a result, the study recommended that management should give their maximum support to internal auditors by taking actions promptly on the recommendations that internal auditors give in the course of discharging their duties. The study also recommends that management should encourage the internal auditors to professionally upgrade themselves.

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