Research on Humanities and Social Sciences
ISSN (Paper)2224-5766 ISSN (Online)2225-0484 (Online)
Vol.4, No.17, 2014

An Evaluation of Certified Fraud Examiners' Perceptions of Behaviour and Lifestyle Change as Fraud Indicators

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Abstract
This is an exploratory and descriptive study that sought to investigate the perception of certified fraud examiners (CFEs) on the suitability of using red flag behaviour indicators to detect and investigate crime in Kenya. This was necessitated by the continued prevalence of fraud cases in government and private offices despite established mechanism for fraud detection and deterrence. The study used random sampling procedure to select 90 CFEs out of 150 CFEs who were ready to participate in this research. The study is anchored on social learning theory and self control theory. The study findings revealed that CFEs had an optimistic and positive perception towards the use of behavioral red flags as indicators for detecting fraud. Findings also showed that the CFEs believed that the indicators of lifestyle and behavior change can be used successfully for fraud identification in all the industries and occupations explored in the study. The study concluded that there is a need for further study on emerging trends of behavioural and lifestyle changes related to fraud commission. It also recommended that CFEs be proactive in monitoring and surveillance of suspect employees for tips on fraud.
Keywords: Fraud, Fraud detection, Fraud investigation, Behavioural change, Kenya

1.0 INTRODUCTION

Kenyans are likely to lose the war against corruption if the problem of detection and mitigation of fraud is not addressed. Whereas the issue of corruption has been a lot of attention Kenyan politics investigators have complained that there is little support to occupational fraud detection and deterrence which is difficult to carry out due to its hidden form. Unlike theft which is overt, occupational fraud has thrived in the country because of the perpetrators ability to conceal their motives and bad deeds. But while there have been vigorous media discussions by corruption experts about the sudden lifestyle and behaviour changes of suspected perpetrators, no studies have been done to identify the actual social indicators associated with fraud perpetrators that can be utilized by fraud examiners and auditors to detect and examine fraud.

Consequently occupational fraud as a crime in Kenya has not been fully analyzed in relation to life style change and its impact on society. Though the Kenyan government has improved on internal and external audit, documentation, IT controls as recommended by the Association of Certified Fraud Examiners (ACFE, 2010) perpetrators of fraud still manage to circumvent the system for their personal gain. As such large scale corruption in such government departments like state revenue collection, public procurement, and public property transfer remain a headache to the current administration.

But what is occupational fraud? Occupational fraud is the use of one's occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization resources or assets (ACFE 2004). The enrichment of individuals through misuse of power is not new in Kenya. Mati and Githongo (2001) trace corruption from the era of Kenya's first president Mzee Jomo Kenyatta in the late 60s and the early 70s, where it was centered on opportunities presented by the policies through which the state sought to manage the economy. The two authors add that during the era of former president Daniel arap Moi, which started in 1978 and lasted for 24 years, corruption was characterized by abuse of power and land grabbing. The ability of the perpetrators to launder back the stolen wealth back to the economy has ensured that Kenya becomes a very unequal country and a very fragile one at that. As such the socio economic development of the country has been hampered by occupational fraud since independence making the country a poor destination of foreign direct investment.

However the promulgation of the new constitution in 2010 has enhanced the country's position in the fight against graft. The promulgation of the law has added impetus in the fight against corruption. The history of the war against corruption goes back to 1997 when the government created the Kenya Anti Corruption Authority (KACA) through the Prevention of Corruption Act, cap 65 (GOK 1997). The fight against corruption went a notch higher in 2001 when the office of the Attorney General introduced into parliament the Kenya Anti Corruption Commission Bill which sought to make provision in the constitution for the establishment of the Kenya Anti Corruption Commission and also vest powers upon the commission to investigate and prosecute

offences of corruption, economic crime, and misuse of public offices for personal gain. The mandate of the commission has recently been expanded to constitute the more independent Ethics and Anti Corruption Commission (EAAC) (GOK 2011).

While the government has been active at enacting legislations to fight graft other non-governmental organizations like Transparency International have since 1993 played important role in creating awareness about the presence of corruption in Kenya. Like in other parts of the world TI annual Corruption Perception Index (CPI) has been used to help raise the profile of corruption as a major impediment to sustained development in the country (Mati and Githongo 2001). TI Kenya report (2008) rated Kenya at position 32 among 47 African countries and 147 among 180 participating countries worldwide. In addition the National Corruption Perception Survey (2009) found that 76.5% Kenyans rated corruption in the country as very high, 19.7% rated corruption as high, and only a small 1.8% rated corruption as low.

In addition to TI, ACFE, the Institute of Certified Public Accountants (ICPAK) and Kenya National Audit Office (KENAO) there are other bodies in Kenya that have been involved in the retooling the skills of auditors and other fraud examiners to enable them tackle fraud in more sophisticated ways. This paper is a summary report of a study we conducted in 2011 to find out how ACFE Kenya chapter members view behaviour and lifestyle change indicators and how they utilize them to detect fraudulent individuals.

In doing so the researchers hoped to address the following questions: which are the lifestyle and behavior changes that CFEs consider as fraud indicators? how does lifestyle and behavioral change indicators compare to other individual qualities like age, prior criminal records, and level of education in fraud detection? and how effective are behavioural red flag indicators in detecting crime? The study focused on occupational fraud due to its expansive nature and its direct influence on society. This was done by scrutinizing perpetrators' lifestyle change as observed by the Certified Fraud Examiners (CFEs).

CFEs are professional's investigators with formal training in other fields such as auditing, accounting, law, investigation, security management, law enforcement and risk management amongst other related professions. Their responses and perception were used and relied upon for data analysis and conclusion. We worked solely with CFEs because they directly deal with fraud perpetrators. The study covered behavioural red flags fraud indicators only, although there are other fraud detection methods that are used to unearth fraud.

1.1 Limitations

The study only focused on social behavior and lifestyle changes related to fraud commission. This does not mean that there are no other plausible fraud indicators exhibited by dishonest employees; there are other fraud indicators which can guide an investigator to detect fraud. Additionally, not all behaviour changes in an individual were analyzed because not all behaviour changes point towards fraud commission. Because of the sensitive nature of dealing with personal and confidential information the interviewers did not request the perpetrators to give testimonies of how they acquired their wealth but instead analysed all information given by fraud examiners.

2.1 Occupational Fraud in Society

Black (1990) states that, "fraud is false representation of matter of fact, whether by words or conduct, by false or misleading allegations, or by concealment of that which should have been disclosed." According to Black occupational fraud can be sub divided into three major categories; asset misappropriation, corruption and financial statement fraud. Asset misappropriations are frauds in which the perpetrator steals or misuses organizations resources. They include skimming and cash larceny, frauds involving fraudulent disbursement of cash like billing, check tampering, expense reimbursement, payroll, and cash registers (F.E.M 2010). Corruption refers to schemes in which fraudsters use their influence in business transactions in a way that violates duty to their employers in order to benefit themselves or someone else. Examples include bribes, extortions, and conflict of interest (F.E.M 2010).

Financial statement fraud involves the misstatement or omission of material information from the organization's financial reports, commonly known as 'cooking books'. Examples of some of this frauds involve reporting of fictitious revenues or the concealment of expenses or liabilities in order to make an organization appear profitable than it really is. It's an example of organization occupational crime. (F.E.M 2010)

Other irregular activities that employees engage in for their own benefit include, acceptance of kickbacks and bribes, diversion of potential profitable transactions to other organizations, embezzlement, intentional concealment or misrepresentation of transactions, submission of false claims, intentional failure to act on unwarranted circumstances, unauthorized use of confidential information, and illegal manipulation of information technology networks or operating system (F.E.M 2010).

2.2 Prevalence of Occupational Fraud in Society

ACFE Report (2009) indicates that fraud escalates during economic recession. The report states that fraud

increase during such times due to individual pressure; and 50% respondents interviewed in the study believed pressure arising from economic problems resulted in amplified level of fraud. The findings corroborate Aitan (2002) who argues that fraud and corruption increase during hard economic times. The ACFE Report (2010) indicated that occupational fraud during economic recession includes asset misappropriation, corruption and misrepresentation of financial statements.

However data available for this study indicated that fraud is a permanent feature in developing countries economies. For instance a study by GCB (2010) estimates that one out of two people per transaction paid a bribe in Sub-Saharan Africa. The survey further reveals that in 2006 more than 20 developing countries reported significant increase in petty bribe with the highest occurrences happening in Chile, Cambodia, Kenya, Nigeria and Thailand. In addition TI Kenya (2008) repot on Kenya denotes widespread prevalence of occupational fraud and observes that bribery and private payment to public and private officials to influence decisions is the most prevalent manifestation of corruption. A 2010 report by Nationals Enterprise Survey on Corruption listed greed, poverty, poor remuneration, unemployment, bad governance and cultural reasons as the main factors that promote corruption (table 1).

Table 1: Comparison of Reason for Corruption Prevalence.

Reason for prevalence	**Percentage.**
Greed	50%
Poverty	40.2%
Poor remuneration	19.7%
Unemployment	14.9%
Bad governance	10.3%
Cultural reasons	10%

Source: NESC 2010

2.3 Factors that Promote Occupational Fraud

In his study on occupational fraud Albrecht (2003) indentifies perpetrator characteristics and organizational environment as two major causes of fraud. He says that individuals who are likely to commit fraud exhibit characteristics that include living beyond ones' means, overwhelming desire for personal gain, high personal debt, close association with customers, the feeling of being underpaid, a wheeler dealer attitude, strong challenge to beat the system, and excessive gambling habits. He also found that organizations that place too much trust on key employees, lack proper procedure for authorised transactions, do not mind personal disclosures of personal investment and incomes, and do not perform independent checks on performance risk are at danger of becoming victims of occupational fraud.

It is habit of most employers to teach their new employees about good ethical and professional behavior once they join a new company. But some employees indulge and get acquainted in criminal behaviour by learning from their older colleagues. While expounding on social learning theory Akers and Burgress (1966) explained that individuals tend to reinforce behaviours they learn and find beneficial to them and similarly reject those stimuli that cause pain to them. Thus occupational fraudsters tend to justify what they see and regard as beneficial like misappropriating funds from a company in order to sustain their lavish lifestyles. Individuals that earn little pay and prefer associating with high spenders get influenced to lavish lifestyle and end up committing fraud to sustain their desired lifestyles.

All over the world many people in responsible positions embrace the idea that they can violate their position duty and create opportunities to override existing controls and hence commit fraud. Their motives tend to generate pressure from within or without leading to immense drive to do anything in their capacity to achieve their goals (F.E.M 2010). The officials thus convince themselves that using their coveted positions to steal from the public is a good thing. The architects of the theory of social control based their proposition on people's relationship, commitment, values, norms and beliefs which encourage them not to commit crime or break the law. This means that individuals, who have their moral codes internalized and tied into their way of life, have reduced level of deviance from the norm.

Hirsch (1969) proposed that there is need to establish direct controls and how intimate groups help increase controls when looking at crime causatives. He listed four components in his proposition: attachment (affectionate ties individuals have with other persons), commitment (cost factors involved in criminal activity), involvement (time dedicated on something) and belief (the level of conviction towards general values.). Similarly, La Grange and Silverman (1999) argued in support of self control theory that individual self control is in fact one of the strongest prediction of crime. People are therefore likely to commit fraud due to the attachment they have on the benefits they would get like living in lavish lifestyles.

2.4 The Impact of Occupational Fraud to Development

The U.N, World Bank, IMF, and specialized bodies like ACFE, EACC, and TI are in agreement that corruption is a drawback to development. The 2008 ACFE report revealed that the world economy loses up to 7% of revenue to corruption. This implies that the US economy alone which was expected to hit $14.196 trillion in 2008 lost $994 billion to occupational fraud. On the positive note, however, the 2010 ACFE report indicates that occupational fraud reduced from 7% to 5%.

But the situation in Africa is quite bleak. A 2002 BBC analysis on an African Union Report on corruption stated that the cost of corruption on African economies exceeds US$ 14.8 billion a year. The panelists noted that the resources diverted by corruption acts and resources withheld due to corruption amounts to 25% of Africa's Gross Domestic Product. And while corruption continues to eat on African economies a 2010 GCB report observed that, "the demography of bribery continue to disadvantage the poor and the young, as all surveys show that lower income earners report paying more bribes than higher income earners." In Kenya, for example, the TI report for 2003 estimated that 'bribery tax' accounts for about 30% of the urban Kenyan monthly salary. Thus the Kenyan worker who on average is taxed 30% takes home only 40% of gross pay.

2.5 Red flags as Indicators of Occupational Fraud Detection

Red flags are the indicators or signals that something out of the ordinary is happening in an organization and ought to be investigated. Hancox and Di Napoli (2011) state that a red flag is a set of circumstances that is unusual in nature or varies from the normal activity. This means that unlike theft or physical breakage into a building which is easily identifiable and recognizable, fraud is perpetrated by people in a fiduciary relationship with the organization and detecting these individuals is difficult and hence investigators must rely on red flags to map out insidious dealings. The two observe that perpetrators undergo some behaviour changes which include absenteeism, abnormal ill health like shaky appearance, making and breaking promises, memory loss, frequent family problems, and evidence of deceit. They however caution that behavioral change in an individual cannot solely be used to accuse an individual but numerous and noticeable behavior change leading to lifestyle change are enough to provoke fraud examiners to conduct surprise audits.

3.0 METHODOLOGY

3.1 Research Site and Unit of Observation

The ACFE Kenya Chapter (#134) is an affiliate of ACFE International - an international professional association of anti-fraud and white-collar experts whose objective is to train CFEs all over the world on fraud awareness. The ACFE Kenya Chapter equips anti- fraud professionals with suitable skills and knowledge to fight fraud. The Kenya chapter has about 200 members of whom 150 are CFEs. In this study the unit of observation is the trained CFE. The CFE is in contact with the occupational fraudsters and is best placed to provide information on behaviours that are perceived to be significant in fraud detection. The unit of analysis is the behavior and lifestyle changes of the fraudsters.

3.2 Sampling Techniques and Data Collection

The study employed random sampling method to select 90 respondents from a total of 150 CFEs that qualified to be part of this research. In addition purposive sampling technique was used to select six key informants who provided more insight on the subject. Questionnaires that contained both open and closed questions were administered to the respondents through e-mail followed by a face to face interview with the researchers to gather primary information. Secondary data was extracted from ACFE Kenya Chapter yearly fraud reports and other institutions where the CFEs are posted work. The data was analysed using the Statistical Package for Social Science (SPSS).

4.0 RESULTS AND ANALYSIS

4.1 Background Characteristics of Respondents

The explanatory variables of this study included age, level of education, occupation, the type of industry a CFE served and the number of years in the service. The ages of the 90 CFEs were between 50 and 60 years and were classified in groups of 21-30 years, 31-40 years, 41-50 years, and 51-60 years. Some 58.9% respondents were between 31 and 40 years, 29% were between 21 and 30 years, 5.6% were between 41 and 50 years while 3.3% were between 51 and 60 years. Three of the six key informants were between 41 and 50 years and the rest were between 51 and 60 years.

The Fraud Examination Certification is only open to candidates who have some kind of profession. In our study 65.6% respondents had a bachelor's degree, 22.2% had a diploma, and another 8.9% had a masters' degree or were about to graduate. Among these respondents 34.4% were auditors (22.2% external auditors and 12.2% internal auditors), 20.0% were security officers, 11.1% were accountants, 10.0% were risk analysts and 8.9% were bankers (table 2 below).

The ACFE Kenya Chapter is a fairly recent institution and 74.4% respondents had only served for 1 to 2 years, 15.6% had served for 2 to 3 years and 8% had served for less than a year. Only one respondent had served for 4 years. Further 68.9% respondents were employed in the service industry compared to 28.9% who worked either as finance managers or auditors in the banking industry (table 3).

Table 2: Respondents' occupation

Occupation	Frequency	Percent
Accountant	10	11.1
Investigator	13	14.4
Security officer	18	20.0
External auditor	20	22.2
Internal auditor	11	12.2
Risk analyst	9	10.0
Banker	8	8.9
Others	1	1.1
Total	90	100.0

Source: Research Survey 2011

Table 3: Respondent's Industry

Industry	Frequency	Percent
Service	62	68.9
Banking	26	28.9
Others	2	2.2
Total	90	100

Source: Research Survey 2011

4.2. How respondents identified Behavioral Red Flags

This study was principally concerned about the use of behavioural change indicators in detecting and investigating crime by the CFEs. The key behavioral change indicators were clustered into four major categories with 83 (92.22%) respondents saying that fraud perpetrators engaged in expensive living like buying expensive cars, palatial homes, jewelry, gifts, making frequent expensive trips and overspending. Sixty eight (75.60%) respondents pointed to sudden or erratic behaviour change, like excessive gambling, alcoholism, withdrawal syndrome, deceit, extended working hours, and frequent long calls in silent tones or coded language. Sixty one (67.80%) respondents mentioned that people who committed fraud had some personal problems which manifested in their behaviour; while 41 (45.60%) respondents said that those who engaged in fraud tended to have illicit extra marital affairs (table 5).

Table 5: Key Indicators of Behavioral Red Flags

Indicators	Responses	Percentage	Percent of Cases
Expensive living standards	83	32.80	92.20
Illicit relationships	41	16.20	45.60
Sudden behavior change	68	26.90	75.60
Personal problems	61	24.10	67.80

Source: Research Survey 2011

Some 92.2% of the identified cases engaged in expensive living while another 75.6% cases exhibited sudden behaviour change making them the most significant fraud detection indicators (table 5).

4.2.1 The use of Behavioral Red Flags by Type of Industry and Occupation

We explored the key behavioural flag indicators common in different industries so as to make an informed generalization on the best available indicators for fraud detection. We found that 68.7% respondents in the service industry look out for expensive living, another 68.3% respondents look out for illicit relationships, 64.7% look out for sudden behaviour change and finally 68.8% look out for personal problems. Some 28.9% respondents in the banking industry said they pay attention to expensive living, compared to 26.8% who look at illicit relationships, 35.3% who look out for sudden behavior change, while 27.9% pay attention to personal problems. CFEs working in other types of industries said they also paid attention to expensive living (2.4%), illicit relationships (4.9%) and personal problems (3.3%).

We also found that CFEs in different occupations employed the use of available behavioural red flags differently. External auditors paid more attention to illicit relationships (34.1%) and expensive living standards (24.1%) while security officers paid more attention to personal problems (24.6%) and sudden behaviour change (19.1%).

On the other hand risk analysts paid attention to illicit relationships (17.1%) more than the bankers (12.2%), and accountants and internal auditors (7.3%). See table 6 below.
In sub-section 4.1 above we showed that 74.4% of the respondents had worked as CFEs for 1 to 2 years. Some 78.0% of these CFEs said they pay attention to illicit relationships when looking for clues on fraud, 75.9% look out for expensive living, and 72.1% look out for sudden behaviour change, while 73.8% look for personal problems. Respondents who had served for 2 to 3 years said they look out for expensive living (15.7%) and illicit relationships (17.1%) to detect fraud. The respondents who had served less than a year said they used expensive living (7.2%), sudden behaviour change (11.8%) and (8.2%) personal problems (8.2%) as standard behavioural red flags (table 7).

Table 6: Behavioral Red Flag Indicators vs Industry

	Behavioral red flag indicators.			
Industry of respondents	**expensive living standards %**	**illicit relationships %**	**sudden behavior change %**	**personal problems %**
Service	68.70	68.30	64.70	68.80
Banking	28.90	26.80	35.30	27.90
Others	2.40	4.90	0.00	3.30
Total	100.00	100.00	100.00	100.00

Source: Research Survey 2011

Table 7: Respondents Behavioral Red Flags and Length of Service

	Behavioral Red Flag Indicators.			
Years of service	**expensive living standards %**	**illicit relationships %**	**sudden behavior change %**	**personal problems %**
Under 1 year.	7.2	4.9	11.8	8.2
1-2	75.9	78.0	72.1	73.8
2-3	15.7	17.1	14.7	16.4
4-5	1.2	.0	1.5	1.6
Total	100	100	100	100

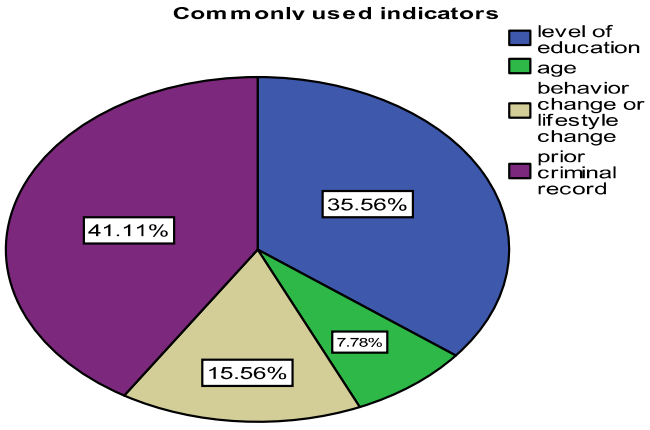
Source: Research Survey 2011

The fact that there are various behavioural and lifestyle changes that the CFEs used to detect fraud imply that there are many indicators which can be used to identify fraud.

4.3 How CFEs Investigate Occupational Fraud

In this study some 69 (76.7%) respondents confirmed to have done a fraud investigation of some form compared to 23.3% who had not done one. The CFEs said there are a number of individual characteristics used to single out criminals from other employees like ones' position in an organization, annual income, level of education, age, gender, behaviour and lifestyle changes, time spent on job on a daily basis, collusion with vendors, and previous criminal records. However this research only assessed the extent to which individual attributes like age and level of education compare with behaviour and lifestyle changes and previous criminal record as fraud indicators. Our findings showed that criminal record (41.11%), followed by level of education (35.56%) and behaviour change (15.56%) were commonly used as fraud indicators. The respondents emphasise on age to a very little extent (7.78%) in examining fraud (figure 1).

Figure 1: Respondent's Commonly Used Personal Qualities as Fraud Indicators



4.3.1 The Frequency by which CFEs used Behavioural Red Flags to investigate fraud

We also investigated how often the respondents used the behavioural red flags to investigate fraud. Some 37 (41.1%) respondents said they used behavioral red flag very often, 35 (38.9%) respondents said they used them often, while 17 (18.9%) remained neutral, and only one (1.1%) respondent said he used behavioural red flags less often (Table 8 below). A cross tabulation of the use of behavioural red flags and type of industry in fraud investigation showed that 31 (83.8%) respondents in the service industry compared to 4 (10.8%) in the banking industry used the indicator more often. Further 27 (77.10%) respondents in service industry compared to 8 (22.9%) respondents in the banking industry used the red flag often (table 9).

Table 8: Respondents' Frequency Use of Behavioral Red Flags

	Frequency	Percent
Most often	37	41.1
Often	35	38.9
Neutral	17	18.9
Less often	1	1.1
Total	90	100.0

Source: Research Survey 2011

Table 9: Respondents Usage of Behavioural Red flag and Type of Industry

	Frequency of Usage.				
Industry of respondent	**Most often %**	**Often %**	**Neutral %**	**Less often**	**Total %**
Service	83.80	77.10	17.60	100.50	68.90
Banking	10.80	22.90	82.40	0.00	28.90
Others	5.40	0.00	0.00	0.00	2.20
Total	100.00	100.00	100.00	100.00	100.00

Source: Research Survey 2011

Again a cross tabulation of the use of behavioural red flags against level of education showed that 62.2 % respondents with a degree compared to 16.2% respondents with a diploma use the indicators **more often** while 54.3% respondents with degree education compared to 37.1% with diploma education use the indicators **often** (table 10). Again a cross tabulation of the use of behavioural red flag indicators and the type of profession indicated 24.3% investigators and security officers and 16.2% risk analysts used the indicator **most often** (table 11).

Table 10: Level of Behavioural Red Flag use versus Level of Education

	Frequency of Usage				
Level of Education	**Most often %**	**Often %**	**Neutral %**	**Less often %**	**Total %**
Diploma	16.20	37.10	5.90	0.00	22.20
Degree	62.20	54.30	94.10	100.00	65.60
Masters	13.50	8.60	0.00	0.00	8.90
Others	8.10	0.00	0.00	0.00	3.30
Total	100.00	100.00	100.00	100.00	100.00

Source: Research Survey 2011

Table 11: Level of Behaviour Red Flags use versus Occupation

	Frequency of Usage			
Occupation	**Most often %**	**Often %**	**Neutral %**	**Less often %**
Accountant	5.40	0.00	47.10	0.00
Investigator	24.30	11.40	0.00	0.00
Security officer	24.30	25.70	0.00	0.00
External auditor	27.0	25.70	0.00	100.00
Internal auditor	0.00	31.40	0.00	0.00
Risk analyst	16.20	0.00	17.60	0.00
Banker	2.70	5.70	29.40	0.00
Others	0.00	0.00	5.90	0.00
Total	100.00	100.00	100.00	100.00

Source: Research Survey 2011

4.3.2 How CFEs rate Behaviour Red Flags compared to other Indicators

We also investigated how the CFEs rated the use of behavioural red flag indicators in investigating crime as compared to other indicators. We found that 52.2% respondents preferred the use of behavioural red flag indicators to detect fraud with 32.2% saying that they rate the indicator very highly, and only 1.1% saying they rate the indicator lowly. Some 57.7% respondents in the banking industry and 51.6% respondents in the service industry told this research that they ranked the use of behavioural red flags very high (see table 12).

Table 12: Response Rate on the use of Behavioral Red Flags by Industry

	Comparison with other indicators			
Industry of Respondent	Very high %	High %	Neutral %	Low %
Service	38.70	51.60	8.10	1.60
Banking	11.50	57.70	30.80	0.00
Others	100.00	0.00	0.00	0.00
Total	32.20	52.20	14.40	1.10

Source: Research Survey 2011

We also investigated how the level of education of a respondent impacts on the choice between the use of behavioural red flag indicators and other indicators. Results showed that 85% respondents with diploma education rated the indicator **highly** compared to 40.7% with degree, 50% with master's degree and 66.7% with other qualifications. Some 50% respondents with master's degree rated use of behavioural red flag indicators **very high** compared to 37.3% respondents with bachelor's degree, 33.3% respondents with other qualifications and 10.0% respondents with diploma education (table 13).

Table 13: Use of Behavioral Red Flags by Level of Education

	Comparison with other indicators			
Education	Very high %	High %	Neutral %	Low %
Diploma	10.00	85.00	5.00	0.00
Degree	37.30	40.70	20.30	1.70
Masters	50.00	50.00	0.00	0.00
Others	33.30	66.70	0.00	0.00
Total	32.20	52.20	14.40	1.10

Source: Research Survey 2011

4.4 The Effectiveness of Behavioral Red Flags in Fraud Examination

One of the questions in this research was whether the use of behavioral red flag is an effective method to investigate fraud. Our results showed that 82(91.11%) respondents compared to 8(8.9%) had used the behaviour change indicators in conducting fraud examinations (table 14). Similarly 61 respondents in the service industry compared to 19 in the banking industry employed behaviour red flags to examine fraud. Only 2 respondents in other industries used behavioural red flags to conduct fraud examination. The key informant in the banking industry explained that the method was less used in the banking sector because fraud examiners pay more attention to book keeping errors like poor book keeping, misrepresented figures, cooked books, and unbalanced

accounts.

Table 14: Use of Behavioral Red Flags to Conduct Investigation by Industry

	Respondents' Usage of the Red Flag	
Industry of respondent	**yes**	**No**
Service	61	1
Banking	19	7
Others	2	0
Total	82	8

Source: Research Survey 2011

We also established that all security officers, auditors and investigators had used behaviour red flag in examining corruption compared to 60% accountants, 77.85% risk analysts and 75% bankers used the indicator in fraud examination (table 15).

Table 15: Use of Behavioral Red Flags for investigation by Occupation

	Respondents' Usage of the Red Flag	
Occupation	**Yes %**	**No %**
Accountant	60.00	40.00
Investigator	100.00	0.00
Security officer	100.00	0.00
External auditor	100.00	0.00
Internal auditor	100.00	0.00
Risk analyst	77.80	22.20
Banker	75.00	25.00
Others	100.00	0.00
Total	**91.10**	**8.90**

Source: Research Survey 2011

4.5 Discussion

The first objective of our research sought to find out the categories of lifestyle and behavioral indicators that could be used to identify fraud. Our results established that CFEs consider behaviour change indicators (28.60%), weak internal controls (25.60%), poor management (11.70%), poor book keeping (26.30%), and others (7.8%) as the main indicators to detect fraud. The behavioral red flags that the CFEs used for fraud analysis include expensive living (32.8%), illicit relationships (16.2%), sudden or erratic behaviour change (26.9%), and personal problems (24.1%).

Fraud perpetrators who engaged in expensive lifestyle were found to live beyond their means, bought expensive jewelry, cars, palatial homes, gave expensive gifts, and made frequent expensive trips abroad. Others engaged in excessive gambling, alcoholism, had withdrawal syndrome, were deceitful, and worked for extended hours so as to get room to receive bribes and manipulate books. Those that suffered from personal problems fell into depression, isolation, and lacked motivation,

The second objective of this study sought to compare use of behaviour change and lifestyle change indicators with other personal qualities indicators for fraud detection. Our data showed that 76.7% respondents compared to 23.3% agreed that behaviour change is a good detector for fraud detection.

The third objective of this research sought to establish how effective behavioral and lifestyle change indicators in detecting occupational fraud. Our results indicate that 91.1% respondents used lifestyle and behaviour change indicators to detect fraud while 52.2% considered lifestyle and behaviour change indicators ideal for occupational fraud detection. Finally 41.1% respondents strongly agreed that behavioral red flags could be used for fraud identification.

5.0 CONCLUSIONS

Many studies have shown that political patronage, favoritism, and bad governance within the public and private sectors are the main cause of corruption (Abigail, 2010). But despite this appreciation, NESC (2010) reported that corruption grew by more than 11% between 2009 and 2010. This is that the EACC has put in place deterrence measures to curb corruption. This study sought to find out what detection and deterrence measures can be put in place to mitigate the prevalence of occupational fraud. The study was narrowed to use of behavioral red flags to identify fraud although there are other fraud indicators that can be used for fraud

detection and deterrence.

The research data was collected from 90 CFEs and 6 key informants who are also registered CFEs of the ACFE Kenya Chapter. The ACFE report (2010) supports the use of behavioral red flags by observing that, "Behavioral fraud indicators do not prove an individual is engaged in fraud, but should raise warning signs." The CFEs who participated in this research were of the opinion that the use of behavioural fraud indicators was a good method of detecting and examining fraud.

However we also found that there is need for proper fraud identification procedures and the willingness of top management to eliminate offences if we are to minimize crime in our institutions. The study established that CFEs in all sectors except those in the accounting and risk departments utilize behaviour and lifestyle change indicators to examine corruption. Those in the accounting and risk department did not very much rely on the indicators because the nature of their work revolved around book keeping especially reconciling and balancing of accounts. Much of their crime scrutiny is done when they detect anomalies in figures.

5.1 Recommendations

The Kenyan government is at this time implementing the 2010 Constitution and putting in place new governance structures that lay emphasis on integrity and transparency. The results of this research is one of the pieces expected to help the transition authority gauge individuals' transparency as they assume new roles in the new administration.

The study findings are also expected to **assist the** Association of Certified Fraud Examiners Kenya chapter and other stakeholders in the fight against corruption and occupational fraud.

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