

Fraud Prevention Strategies: The Perception of Saudi Arabian Banks Employees

TAHANI ALI HAKAMI & MOHD MOHID RAHMAT

ABSTRACT

The main objective of the study is to examine the perceptions of employees of banks operating in Saudi Arabia on the effectiveness of fraud prevention. A total of 150 questionnaires are distributed among employees of 12 Saudi banks with a response rate of 53.3 %. These fraud prevention strategies are classified using Cressey's fraud triangle which consists of pressure, rationalization and opportunity. The research engaged quantitative research method using questionnaire. The findings indicate that all strategies are perceived to be highly effective with strategies under the opportunity category turned out to be the most effective. However, when detailed analyses of the practices are compared across selected characteristics, various perceptions are revealed. Positive employee recognition, ethics training, imposing penalty, fraud auditing, and disciplinary action are perceived differently between male and female employees. Female employees perceive these fraud prevention policies and strategies as more effective than male employees. On the other hand, the differences in perception is found to be insignificant for working experience, qualifications, accounting experience, age group, job titles, and departments.

Keywords: Fraud prevention; strategies; pressure; rationalization; opportunity; bank employees.

INTRODUCTION

Fraud, in all its forms, has become increasingly prevalent in today's world, where dishonesty has spread into every aspect of life. Illegal conduct in businesses is rising dramatically (Association of Certified Fraud Examiners (ACFE) 2016; Repousis et al. 2019), causing serious problems to communities and affecting people in the world as a whole. For instance, the fraud and economic crime surveys that were regularly carried out by various organizations such as KPMG's latest Gulf Cooperation Council GCC (2008) and the ACFE (2010) indicated that fraud is not only a serious but also a growing problem throughout most countries in the world. Fraud cost the investors, creditors, bankers and other market participants billions of dollars. Whether the executives and employees commit fraud on behalf of the organization or against the firm, the Association of Certified Fraud Examiners, in its Report to the Nation on Occupational Fraud and Abuse estimated that fraud loss is about \$7 billion in many organizations around the world (ACFE 2018).

In general, employees defraud their organizations using different ways. They cost their employers a huge amount of money every year. According to the ACFE (2018), various schemes can be used to defraud the organizations including skimming and cash larceny, known better as frauds that targets an organization's incoming receipts. Other methods include billing schemes, cheque tampering, expense reimbursements, payroll schemes and cash register disbursements which targets outgoing disbursements of cash. Cash on hand misappropriations involve the theft of cash or currency maintained onsite by the victim's organization. On the other hand, the non-

cash misappropriation involves the theft or misuse of physical assets such as inventory or equipment, or the misappropriation of proprietary information (ACFE 2018). Building on the above profile, this case is severe in the banking sector since it deals with public funds, and hence, it is crucial to conduct professionalism to protect and gain the confidence of the public (Khanna & Arora 2009; Akinyomi 2012). Moreover, the banking sector is among the largest sector in any economy, which could then lead to high fraud cases by their employees. This supposition is supported by fraud survey in the KPMG's latest Gulf Cooperation Council GCC in 2008 which indicated that as the organization grows in size, the possibility of committing fraud increases (KPMG 2008) due to the increasing number of workers as well as the number of transactions. Hence, the Gulf region, as reported by KPMG (2008), is of high growth, and this growth has simultaneously increased in fraud cases committed by employees and management. Considering this is a worldwide phenomenon, fraud should be controlled where efforts must be taken to curb such illegal acts, otherwise it will just end up as JPMorgan Chase and Citigroup which effectively made it easy for Enron to carry out the fraud (Abdel-Khalik 2016).

The spate of scams that has been uncovered recently, specifically in the financial institutions (Repousis et al. 2019), may seem to prove the conventional wisdom that fraud is more likely to occur when the times are "tough". This indicates when persons (management and employee) faces pressure from shareholders and other stakeholders that could motivate them to commit fraud more than any other given time frame. According to Lobo (2010), Partner Forensic Services at KPMG under unusual circumstances,

like the current financial crisis and various corporations usually face the risk of fraud due to the increased pressure on businesses in particular and societies in general. Committing fraud under such circumstances may aim to mitigate that pressure by showing good results and growth. This study focuses on the Kingdom of Saudi Arabia which is affected by this worldwide phenomenon. According to Saudi Arabian Monetary Agency (SAMA) (2009), the biggest obstacle faced by banking and financial institutions is fraud. Akinyomi (2012) indicated that fraud is more often committed by the banks' employees themselves with or without assistance from insiders or outsiders. Various factors lead to this act of fraud amongst bank employees such as personal financial crisis, opportunistic attitude, disgruntlement, lack of loyalty, family pressure and debts (Cociug & Postolache 2014; Neguriță & Ionescu 2016; Ocansey & Ganu 2017). The negative result of this situation not only affect finances but also other aspects of financial institutions. Fraud brings about various additional problems such as weak performance, a decrease in monetary and other resources (Omoolorun & Abilogun 2017). Moreover, these institutions also face erosion of their reputation and competitiveness (Makridis & Zhou 2019).

Meanwhile, individuals will also be tempted to commit fraud in cases where costs are rising, and income levels are flat. In line with that argument, the ACFE report also stated that the Middle-East and North Africa (MENA) region has the lowest occupational fraud rate that accounts for only 3.7% of the total cases. However, the region has the highest median loss from fraud of \$275,000 per case compared to the global median loss of \$150,000 per case. The relatively high median loss in the MENA region potentially implies that fraud is perpetrated by individuals in top hierarchies considering that the ACFE report identifies a strong positive correlation between the level of authority held by a perpetrator and the size of the fraud (ACFE 2016). According to the KPMG survey carried out in 2016, fraudulent acts by managerial level in MENA has increased to 47% compared to 33% in North America. Albrecht et al. (2009) stated that it is far less expensive and more effective to prevent fraud rather than investigating and bringing the perpetrators of fraud to justice once the fraud is discovered. As such, focus on fraud prevention strategies could be helpful in protecting financial institutions against fraud. This requires the financial institutions to focus more in-depth on deterrence methods which provide early warnings against any fraud.

Nevertheless, the existence of such strategies in various organizations does not guarantee that fraud will not occur since it is necessary for such strategies to be effective to help in curbing and deterring fraud. It is, therefore, important to evaluate the effectiveness of various fraud prevention strategies. From the viewpoint of this study, to address this situation, the stakeholders (i.e., the Saudi Arabian Banks employees) are required to be involved. Therefore, this paper presents the general perception of employees in Saudi Arabian banks on the issue of

fraud prevention strategies, as well as the findings of the differences in perception on the effectiveness of fraud prevention strategies under pressure, rationalization and opportunity. This study also investigates if there are any differences in perception of respondents on the efficacy of the strategies under pressure, rationalization, and opportunity according to gender, qualification, accounting experience, age, job title, and department.

As a topic of such importance, the objectives of this study, therefore, are to examine the perceptions of the effectiveness of fraud prevention strategies of banks in Saudi Arabia and investigate if there are any differences in perception of respondents on the efficacy of the strategies under fraud triangle factors which comprises of pressure, rationalization, and opportunity according to gender, qualification, accounting experience, age, job title, and department. There is a widespread disagreement on what exactly constitutes fraud and abuse offenses (Wells 2017). The motivation of the study lies with the fact that fraud problem is not a new phenomenon. However, it is a social phenomenon that is hugely expensive and harmful as argued by Wells (2004). According to Gitau and Samson (2016), fraud has adverse consequences on public confidence. The recent years have shown a tremendous increase in the incidence of fraud worldwide (Simeon 2018; Sadaf et al. 2018).

This study contributes to both the practical and academic aspects of the subject. On the practical side, the results of this study may provide a clear picture regarding the effectiveness of strategies used in preventing fraud. This may assist both the practitioners and regulators in considering such strategies. In addition, this study also contributes to the literature by providing comprehensive understanding regarding employees' perceptions on the different strategies used to address fraud and shed light on whether the strategies used by banks are considered the most effective methods. To achieve the research objectives, the instrument used in this study consists of information gathering via survey questionnaire distributed to the employees in Saudi Arabia banks so as to answer the research objective and generate the required information that provides support for the research purpose. The questionnaires are distributed to 12 Saudi Arabian banks with total of 150 respondents.

LITERATURE REVIEW

BANKING FRAUDS IN SAUDI ARABIA

The fraud in Saudi banks, in particular, is much severe and is estimated by thousands of transactions (Hafiz 2010). According to Talat Hafiz, secretary-general of the Media and Banking Awareness Committee for Saudi Banks, more than 4,500 fraudulent transactions were carried out in Saudi Arabian banks within three years, from 2007 to 2009. He also stated that 4,275 of fraud cases worth (\$152 million) in Saudi banks occurred in 2016 (Hafiz 2018). The fraud brings negative result that affect finances

and also other aspects of financial institutions, including weak performance, a decrease in monetary and other resources (Omoolorun & Abilogun 2017). Moreover, these institutions also face erosion of their reputation and competitiveness (Makridis & Zhou 2019).

As a result, Saudi banks have undertaken many efforts to address the fraud which includes the implementation of fraud prevention strategies. What is serious is the fact that the use of fraud prevention strategies is not as effective as it should be. Unfortunately, about half of the fraud prevention strategies are not implemented and are ineffective even when they are implemented as reported by KPMG (KPMG 2008). Such issues made the countries of the region among the worst countries in the 2007 Corruption Perception Index released by the International Transparency (2008). As such, there is a need for additional anti-fraud measures by organizations and governments to maintain investor and consumer confidence in business practices. Indeed, most countries in the region ranked lower than the previous year (KPMG 2008).

As a consequence, Saudi authorities have intensified their efforts to combat fraud for them to gain the confidence of consumers and the public. Looking into the strategies to curb fraud, SAMA and Banking Inspection Department has launched a Manual of Combating Embezzlement, Financial Fraud & Control Guidelines in year 2008. The manual provides measures that should be taken into account upon designing or evaluating the policy related to preventing and combating fraud in commercial banks operating in the Kingdom of Saudi Arabia. For example, equality between employees, conduct and disciplinary criteria, control and follow-up as well as spreading awareness with regards to fraud. In general, the guidelines aim to provide a practical manual for self-assessment by banks to be applied as a comprehensive strategy to combat fraud (SAMA 2009). According to the manual, it is necessary for banks to establish an integrated plan to combat fraud to address all aspects of the fraud problem. By building on and adopting the best international practices in this area, it is suggested that each bank should meet nine conditions to develop an effective plan to combat fraud (SAMA 2009).

The conditions are summarized in Table 1 below. It is interesting to note that in the fourth condition of the policy, the management should promote the awareness of

fraud by making employees understand that fraud is not permissible or *haram*, in religious terms. It is necessary to notify employees about the issue of combating and reporting fraud and therefore, there should be a policy to conduct such awareness programmes. This is mainly due to inability to minimize fraud without employees' cooperation (SAMA 2009).

FRAUD PREVENTION STRATEGIES

Fraud involves a wide array of illegal operations conducted deliberately through treachery or misrepresentation. Perpetrators of fraud engage in duplicitous acts for financial or material advantage in the form of distressing and without incurring any costs (Ahmed et al. 2016). Financial fraud should not be underrated because of its far reaching ramifications in various fields such as corporate organizations, government institutions and even among ordinary consumers in various places of business (West & Bhattacharya 2016). Financial and operational losses arise in terms of unrealized gains and high expenses. As for psychological difficulties, the organization's reputation, goodwill, and relationship with customers suffer the most due to fraudulent activities. Increase in fraudulent activities in the recent past has afflicted Saudi Arabian business environment. The current measures taken in line with fraud prevention and detection are hardly effective.

Many studies have been conducted to examine fraud prevention strategies by individual researchers as well as fraud fighting organizations such as the ACFE as well as professional accounting and auditing bodies. Holtfreter (2004) argues that fraud prevention and detection methods can take different forms of techniques which generally takes two ways: firstly, those strategies that are implemented at the pre-employment stage to screen the applicant's status and his history and secondly, those measures that take place during the course of employment to prevent fraud from occurring. In the report to the nation by the Association of Certified Fraud Examiners (2010; 2016; 2018) it was revealed that many fraud prevention strategies are proved to be effective. It emphasizes that the fraud prevention methods may reduce the opportunities for fraud to take place and it is less costly than detection costs (American Institute of Certified Public Accountants (AICPA) 2002).

TABLE 1. The conditions in the manual of combating embezzlement & financial fraud & control guidelines according to Saudi Arabian Monetary Agency

No.	Conditions
First	A strategy to combat and prevent fraud.
Second	Regulatory framework and responsibility structuring.
Third	Assessing fraud risks.
Fourth	Spreading awareness with regards to fraud.
Fifth	Control procedures.
Sixth	Control and follow-up.
Seventh	Fraud notification methods.
Eighth	Investigation criteria.
Ninth	Conduct and disciplinary criteria.

Therefore, many new fraud prevention strategies and anti-fraud strategies are adopted by different types of organizations to deter and combat fraud since the traditional red flag approach is argued to be ineffective (Bierstaker et al. 2006) and many existing strategies are considered impractical (Wells 2004). According to Wells (2017) and Simha and Satyanarayan (2016), many fraud prevention and detection strategies are utilized to minimize the effect of corporate fraud. Bierstaker et al. (2006) illustrated some of these strategies such as fraud policy, telephone hotline, employee's reference check, fraud vulnerability reviews, vendor contact reviews, using analytical review, firewall protection, digital analysis, discovery sampling, and password protection. Besides, the most important fraud prevention strategies adopted in recent corporate governance reforms which have been emphasized are the role of internal audits and control, audit committees and external auditors as important strategies to deter fraud and earnings management.

Bierstaker et al. (2006) investigated the accountants' perception on the strategies used to curb fraud and whether such strategies are effective. Employing a sample of 86 respondents of accountants, internal auditors, and fraud examiners, more than half of the respondents indicated that fraud would still increase despite the increased funding of fraud prevention. The respondents were asked to show whether the strategies such as corporate code of ethics, internal control review, reference checks, employees contact, fraud auditing, fraud reporting policy, fraud vulnerability reviews, fraud hotline, whistle-blowing policy, operational audits, forensic, fraud prevention training, ethics training, increased role of audit committee are excellent fraud prevention methods. Furthermore, auditors were asked to rate the effectiveness of these methods. The results of the study reported that a firewall, virus and password protection and internal control improvement are common methods to combat fraud. However, some of the most effective methods are continuous auditing, discovery sampling, data mining, and digital analysis software which are frequently used.

Alstete (2006) suggested a comprehensive strategy for fraud prevention and detection that includes a culture of honesty with a written code of ethics and conduct, proper employee screening, background checks, technology measures, careful inventory control, and overall continued awareness and vigilance by the management of this important issue. Alstete (2006) examined the strategies to prevent employee's thefts and found that there are many strategies exist, however, the most common strategies that were indicated and their recommendations are: installation of surveillance cameras; improved control system, applicant screening, using a ringer on staff to identify employee thievery, increase owner oversight, increase salary and giving of non-monetary incentives such as products of the company to all employees. Apart from that, Gunasegaran et al. (2018) conducted a study in Malaysian small and medium enterprises and stated that eliminating fraudulent activities require companies to implement effective fraud

prevention mechanism in building a culture of honesty, offering training programs and bringing in expertise, for example, fraud examiners and external auditors.

From the above literatures, it is inferred that there exist many prevention methods, however, their effectiveness depends on the situations and circumstances. Jolly (2003) stated that the organizations must create a sense of responsibility among the employees which is possible by creating a positive environment in the organization. While creating trust and responsibility, the organizations also have to ensure that they implement adequate precautionary measures to protect the employees from resorting to fraudulent opportunities. A positive working environment creates a sense of belonging in the minds of the employees which results in not acting against the interest of the organization through the perpetration of frauds. Collier and Agyei-Ampomah (2009) observed that the existence of a fraud strategy in an organization itself will act to deter the perpetration of frauds. This can be achieved by maintaining an anti-fraud culture and a whistle-blowing policy that encourages staff to raise the alarm about fraud, whenever they come across some instances of potential fraud. According to Collier and Agyei-Ampomah (2009), "an anti-fraud culture is important in reinforcing the need for employees to express their concerns," (p.301). However, the management must be aware that employees may be inhibited to report on any potential frauds on the fear of undesirable consequences. In some cases, the employees do not have any concrete evidences to prove the perpetration of fraud by the colleagues, which causes them not come forward to report to the management about the occurrence of potential fraud.

Cressey (1973) outlined three factors which constitutes the fraud model which consists of the perceived pressure facing the person, the perceived opportunity to commit fraud, and the person's rationalization or attitude. Those three elements are common in any organization whether the fraud is conducted by employees against business (employee embezzlement), or in the favor of business (fraud management). Opportunity represents an open door, which helps the fraudsters to solve non-shareable problems secretly by violating a trust. Weaknesses in internal controls are responsible for providing opportunities for perpetrating frauds (Barra 2010; Dorminey et al. 2012). In this context, pressure may result from anything such as unrealistic deadlines, performance goals, or even personal vices such as gambling or using drugs. In this element, an employee wants or has the need to commit fraud. On the other hand, rationalization is a crucial component of most frauds. This is because most of the people who have the inclination to commit frauds need to reconcile their behavior with the "commonly adopted notions of decency and trust". Under this element, the person committing the fraud is convinced that committing such fraud is worth the risks (Ariail & Crumbley 2016).

According to researchers such as Albrecht et al. (2009), the process of eliminating of the fraud elements and preventing fraud requires the creation of fraud prevention

strategies. In other words, the elimination of the opportunity element requires certain strategies that helps to strengthen the internal control in the organizations. Similarly, the elements of pressure and rationalization also need other strategies that are suitable to eliminate fraud occurrence. Whenever one of the elements of fraud ceases to exist, there will be a lesser possibility of committing fraud. In this study, the three elements of the fraud triangle are used in categorizing the various fraud prevention strategies. The purpose of categorizing the fraud prevention strategies is to identify which element is perceived to be the most important in preventing fraud.

Based on the above literature, there is a need to further understand the impact of fraud prevention strategies specifically, the perception of Saudi Arabian banks employees and whether the bank employees perceives the three elements of the Cressey' fraud triangle (Pressure, Rationalization and Opportunity) differently according to the seven selected characteristics which consists of gender, working experience, highest educational qualification, accounting experience, age group, job title, and department.

RESEARCH METHODOLOGY

The self-administered questionnaire survey is conducted on 150 bank employees at different levels from 12 selected conventional and Islamic banks in Saudi Arabia. Support from the senior management of the banks made it possible to gain access to the bank's employees.

RESEARCH DESIGN, MEASURES, AND PROCEDURES

This study attempts to explore the policies and strategies adopted to prevent fraud in Saudi Arabia banks using a descriptive research design through a survey questionnaire. The breakdown of employees from each bank is determined based on the actual distribution to allow the sample to be as representative as possible.

The questionnaire consists of two main sections namely respondents' profile (age, experience, position, etc.) and perception on the effectiveness of selected fraud prevention strategies based on literature review from ACFE (2008); ACFE (2010); KPMG Malaysia (2004); Bierstaker et al. (2006); Pergola and Sprung (2005) and SAMA (2009). The fraud prevention strategies are then further classified into three categories; Pressure, Rationalization, and Opportunity as shown in Table 2.

The respondents are asked to rank these strategies on a five-point itemized-rating scale of 1 (Completely not effective) to 5 (Highly effective) with a neutral point. A few open-ended questions which required the respondents to provide suggestions are placed towards the end of the questionnaire.

The results of this study attempt in providing some insights as to how Saudi bank employees perceive and respond to fraud. Since this is an exploratory study, a significance level of 10 percent was selected (Sekaran 2016). Both descriptive and non-parametric statistical

techniques were employed to gain a better understanding, and an overview of the sample and general perceptions on the effectiveness of fraud measures (pressure, rationalization, and opportunity), descriptive statistics such as percentages, means, medians, and standard deviations were employed. Where necessary, these statistics were tabulated against appropriate profile information of the respondents. Normality check using skewness coefficient, kurtosis, histogram, box plot, normal probability plot, and Shapiro-Wilk test are employed to justify the use of nonparametric methods such as Mann-Whitney, Kruskal-Wallis and Friedman tests.

RESULTS

RELIABILITY ANALYSIS, PROFILE OF BANKS AND RESPONDENTS

The questionnaire is pre-tested on 25 individuals including postgraduate forensic accounting students who work in banks as well as forensic accounting lecturers to determine the relevance of the questions in the instrument. The results of the reliability analysis show Cronbach's alpha values of 0.831 (pressure), 0.836 (rationalization) and 0.888 (opportunity), implying a high internal consistency. Thus, the questionnaires have a high level of external validity that influences the credibility of the research findings. The questionnaire was then finalized in two languages; Arabic and English. The questionnaire is once again tested for reliability after the actual data collection. The results of the reliability analysis show similar Cronbach's alpha values; 0.893 (pressure), 0.861 (rationalization) and 0.953 (opportunity) as before.

Questionnaire distribution and collecting the feedback are very challenging due to the unique cultural, religious and social environment in Saudi Arabia. Male employees have to be approached indirectly and with the permission of senior management, while female employees have to be coerced to respond. Despite the obstacles, 80 out of 150 (53.3%) employees manage to complete the survey. Those who volunteered are selected based on some existing population breakdown. As a result, this research adopts the non-probability sampling method (which precludes generalizability). Since the credibility of the study is necessary, the findings are still useful albeit limited randomness.

The questionnaires are collected at two different times during the data collection process. The first group consists of 55 respondents, which is collected in year 2011 while the second group consists of 25 respondents. The additional new data is tested to ensure that the existing data is still relevant to Saudi Arabia bank nowadays. To evaluate if their responses are not influenced by the different data collection periods (response bias), the average responses on pressure, rationalization and opportunity issues between both groups are compared using the t-test. Almost all *p*-values for each item for the three determinants are beyond 0.010 implying no significant differences in

TABLE 2. Sources of fraud prevention strategies used in the questionnaire

Strategies Used to Reduce the Pressure on Employees for Committing Fraud	Sources
Employee Counseling And Support	(ACFE 2008) Bierstaker et al. (2006)
Positive Employee Recognition	(Schaefer 2006)
Continual Education	(Pergola & Sprung 2005)
Pre-Employee Background Check	(Pergola & Sprung 2005)
Personal Lawsuits	(Alkaiat 2010)
Employee Assistance Program	(ACFE 2008), Bierstaker et al. (2006)
Personal Finance Facility	(Alkaiat 2010)
Negative Society's Reaction for fraud	(Alkaiat 2010)
Strategies Used to Reduce the Rationalization on Employees for Committing Fraud	Sources
Reward For Whistle Blowing	(ACFE 2008)
Ethics Officer	(Bierstaker et al. 2006)
Ethical Training	(Bierstaker et al. 2006)
Corporate Code Of Conduct	(KPMG 2004)
Equality Between Employees	(SAMA 2009)
Whistle Blowing	(Bierstaker et al. 2006)
Religion Deterrence and Awareness	(Alkaiat 2010)
Strategies Used to Reduce the Opportunity on Employees for Committing Fraud	Sources
External Audit	(ACFE 2008)
Operational Audit	(Bierstaker et al. 2006)
Sudden Check	(ACFE 2010)
Security Measures	(Idowu 2009; SAMA 2009)
Fraud Policy	(Bierstaker et al. 2006)
Imposing penalty	(Barra 2010)
Enforcing regulations	(Kurdas 2009)
Employee rotation	(ACFE 2008; Bierstaker et al. 2006)
Internal audit	(KPMG 2004)
Fraud auditing	((Bierstaker et al. 2006)
Audit committee role	(ACFE 2008; KPMG 2004; Bierstaker et al. 2006)
Internal control improvement	(Bierstaker et al. 2006; SAMA 2009)
Legal punishment	(Alkaiat 2010)
Fraud Hotline	(ACFE 2008; Bierstaker et al. 2006)
Continuous spot check	(Bierstaker et al. 2006)

responses for both groups. Thus, there does not exist any non-response bias. This indicates that the Saudi Arabia bank's current practice is not changed substantially within the periods.

The median age of the sample employees is 29 years old with the youngest being 22 years and the oldest being 57 years. The majority (75%) of the bank employees are males while 25% are females. The significantly low participation from female employees is seen as a result of strict gender separation in the public life of Saudi Arabia. Thus, a fair comparison in perceptions on fraud strategies in bank institutions in Saudi Arabia cannot be made with the rest of the world. Furthermore, greater than 90% of the employees are working in departments such as internal audit (75%), treasury (11.25%), and finance (10%) whom are exposed to fraud attempts and fraud prevention policies. About 74% of them work as auditors, and they are directly involved with fraud prevention policies. It is the role of the auditors to assure as to the integrity of the internal control systems.

Approximately 68% have certificate qualification (e.g., the secondary school with a certificate in fraud prevention training or training in accounting), while the rest have bachelors, masters or Ph.D. qualifications. The distribution of PhD holders is quite high (26.2%) as the questionnaires are distributed among senior management employees. Only about 59% have accounting experience which is quite in contrast since majority works in the audit or accounting departments. Most probably they misunderstood the questions in the questionnaire and there is no one to clarify it to them. Among the respondents, 43.8% have working experience of less than five years. The bankers are very supportive about the fraud issues as indicated by the very high percentage (95%) of employees given the opportunity to attend workshops and training programs in fraud detection and prevention.

The overall perceptions on the effectiveness of the fraud strategies namely; pressure, rationalization, and opportunity, practiced by the bank to curb fraud are

examined and their results are shown in Table 3 below. On average, the bank employees perceived that the fraud prevention strategies practiced by the banking sector seemed to be effective in deterring the bank employees from the misconduct. However, out of the three, those measures under Opportunity were the most effective with mean of 3.98.

The detailed perception of the bank's employees on the importance of fraud prevention strategies with respect to Pressure is examined with results as shown in Table 4 below. The employees perceive positive employee recognition as the most important strategy (mean = 3.82) in curbing fraud, whereas continual education (mean = 3.81) is another highly recommended strategy by researchers in fraud prevention. Positive employee recognition, employee assistance program and personal finances facility are stated in the literature review as fraud prevention strategies where these strategies could decrease the pressure on the employees and help them not to practice fraud. The employees who receive positive recognition, attends beneficial programs as well as been provided with adequate financial facilities when they are in need could eliminate the pressure that leads them to commit fraud. This is also exemplified in Albrecht et al. (2009), who affirmed that organizations which are highly susceptible to fraud can be distinguished from those that are less susceptible by comparing their organizational environments. The authors

indicated that lack of positive recognition of employees is a significant personnel and operating condition that has been found to contribute to an environment with high fraud.

The detailed perception of the bank's employees on the importance of the fraud prevention strategies with respect to Rationalization is examined with results as shown in Table 5 below. Among all the measures undertaken for rationalization, Whistle-blowing seemed to be the most effective (mean = 3.99) while rewards to whistle-blowing appeared to be the least effective measure (mean = 3.62). From the literature review it is clear that, ethic officer serves as the company's internal control point which could prevent the employees' rationalization of committing fraud. In addition, employees who perform whistle-blowers knew they could make a difference in the company while the employees who did not perform whistle-blowing may rationalize their inaction by stating that they did not think blowing the whistle would make any difference. So, rewards to whistle-blowing strategy could help to encourage them to prevent from committing fraud. It is interesting to note that many researchers such as Bierstaker et al. (2006) and Albrecht et al. (2009) have identified and discussed the importance and great significance of whistle blowing in curbing fraud

The detailed perception of the bank's employees on the importance of fraud prevention strategies with respect to Opportunity is examined with results as shown in Table

TABLE 3. Summary statistics for Pressure, Rationalization, and Opportunity

Factors	n	Mean	Std. Deviation
Opportunity	80	3.98	0.82
Rationalization	80	3.81	0.82
Pressure	79	3.74	0.84

TABLE 4. Summary statistics for items under strategy (Pressure)

Items	n	Mean	Std. Deviation
Positive employee recognition.	80	3.82	1.18
Continual education.	80	3.81	1.12
Employee assistance program.	80	3.81	1.15
Personal Finances facility.	80	3.81	1.02
Negative society's reaction to fraud.	80	3.74	1.09
Personal lawsuits.	80	3.71	1.02
Employee counseling and support programs.	80	3.60	1.18

TABLE 5. Descriptive statistics for items under strategy (Rationalization)

Items	n	Mean	Std. Deviation
Whistle-blowing	80	3.99	1.05
Corporate code of conduct	80	3.90	0.92
Ethics training	80	3.89	0.87
Ethics officers	80	3.84	1.02
Religious training	80	3.76	1.34
Monitor employees' workload	80	3.66	1.26
Rewards to whistle-blowing	80	3.62	1.24

6 below. Continuous spot check (mean = 4.16) followed by an operational audit (mean = 4.11) are among the effective measures practiced under opportunity strategies. The strategies under opportunity explained that if a company did not implement any punishments or audit, it could increase the opportunity for the employees to commit fraud. However, when the employees know that there is no chance in committing fraud even without detecting them, they will not associate themselves with fraud activities. The current study confirms the finding of Bierstaker et al. (2006) by pointing out continuous audits as the best fraud prevention strategy.

Differences in the perception of the effectiveness of three fraud prevention strategies

The Friedman test is carried out to test the significance of the differences where the result indicates a significant difference in perceptions of the three strategies ($p < 0.10$). A pairwise comparison test is carried out to further determine which strategies differ. Table 7 shows the result of the pairwise comparisons. The employees perceive that the strategies taken to prevent fraud specifically for Pressure and Rationalization are similarly effective except for Opportunity (mean = 3.98). They perceived that the management has taken effective measures to curb “opportunity” of committing fraud. When the employees are provided with opportunities for committing frauds,

there is every chance that they will commit frauds. The review of relevant literature revealed that the perceived opportunity available at the hands of the perpetrator is one of the main enablers for the employees to commit frauds (SAS No. 99). The opportunities to commit fraud arise mainly from ineffective monitoring by the management. Findings from the literature review revealed that ineffective accounting or internal control staff may also contribute to the commission of frauds by employees. The findings from the study proves this theoretical finding.

Differences in perception of the effectiveness of Pressure as a fraud prevention strategy for selected characteristics

In this analysis, experience is classified into three categories which are less than two years, between 2 to 4 years and more than four years, while the highest educational qualification is categorized into two categories which are the non-degree holder and degree holder. On the other hand, accounting experience is categorized into three categories which consists of no experience, less than five years or more than five years, while age group is also categorized into three categories which comprises of less than 30 years, between 30 to 40 years and more than 40 years. Furthermore, job designation is categorized as non-auditor (others) and auditor (chief financial officer, accountant, shari’ah advisor) while the department is categorized as major and minor. Here, major include employees from the shari’ah advisory council, finance,

TABLE 6. Descriptive statistics for items under strategy (Opportunity)

Items	n	Mean	Std. Deviation
Continuous spot check	80	4.16	1.04
Operational audit	80	4.11	1.09
The external audit of financial statement	80	4.09	1.05
Imposing penalty and disciplinary action	80	4.09	0.94
Surprise audit	80	4.08	1.11
Legal punishment	80	4.04	1.47
Enforcing regulation	80	4.01	0.99
Fraud Hotline	80	4.01	1.07
Internal audit	80	4.00	1.04
Fraud auditing	80	3.96	0.97
Improve security measures	80	3.91	1.16
Staff rotation policy	80	3.90	1.05
Internal control reviews and improvement	80	3.89	1.07
Increase the role of the audit committee	80	3.76	1.09
Anti-fraud policy	80	3.70	1.07

TABLE 7. Pairwise test results on the strategies

Strategy I	Strategy J	Rank total Difference $ R_j - R_i $	$Z_{1-\alpha/k(k-1)} \sqrt{\frac{bk(k+1)}{6}}$	Decision
Pressure	Rationalization	10.4	15.68	No difference
	Opportunity	47.2	15.68*	Differ
Rationalization	Opportunity	36.8	15.68*	Differ

Notes: * The median difference is significant at the 0.10 level

treasury, and internal audit while minor include employees from other departments. The Mann-Whitney and the Friedman tests are carried out where appropriate to test the significance of the differences. A pairwise comparison test (where applicable) is further conducted to determine which categories differ.

The result in Table 8 indicates a significant difference in perceptions regarding pressure between gender ($p < 0.10$). It shows that female employees have significantly higher confidence (median = 4.12) as compared to the male employees (median = 3.75) in terms of giving their perceptions on the importance of the strategies. The statistical test for other characteristics conclude that their perceptions on fraud strategy “pressure” do not significantly differ across the categories ($p > 0.10$).

Generally, all employees interviewed perceived the bank’s measures taken to curb fraud were almost effective (scores of around 4). Those who has been working for less than two years preferred more drastic measures because they perceived the measures as less effective (scores of way below 4) compared to those who had more than four years of working experience (scores of around 4). This indicates (based on higher median values) that the young generation and the degree holders perceive that the bank should increase the security awareness and practice among the bank employees. They are in favor towards more stringent strategies to prevent employees from committing frauds, as according to them the control measures should be capable of reducing the number of opportunities for committing fraud.

The responses of the employees indicate a general agreement on bank fraud prevention strategies to curb fraud. Irrespective of the years of experience, the respondents

have provided an even response to the attributes of pressure as indicated from the mean and median values. Generally, there do not exists a meaningful difference in perceptions on pressure when compared among employees with different levels of accounting experience. The results also show that younger employees (less than 30 years) seem to view the effectiveness of the strategies practiced by the management as effective (median = 4.00). As the employee aged, their perceptions of effectiveness seem to be stricter (median = 3.75), implying maturity. Generally, auditors/non-auditors and departments have similar perceptions of the effectiveness of the strategies practiced to curb fraud.

Differences in perception of the effectiveness of Rationalization as a fraud prevention strategy for selected characteristics

The result in Table 9 indicates a significant difference in perceptions on rationalization between gender ($p < 0.10$). It shows that female employees have significantly higher confidence (median = 4.29) as compared to the male employees (median = 3.71) in terms of giving their perceptions on the importance of the strategies. The statistical tests for other characteristics conclude that their perceptions on fraud strategy “rationalization” do not significantly differ across the categories ($p > 0.10$). Generally, employees who have been working for more than four years in the bank perceives the measures taken to curb fraud under rationalization are more important (median = 4.00) than those who recently joined the bank. They prefer more drastic measures.

The non-degree holders perceive that the strategies practiced by the bank under rationalization should increase in terms of the awareness and practice among the bank

TABLE 8. Results of differences in perception (Pressure)

Characteristics	n	Mean	Median	Test statistics	p-value
Gender	Female	20	4.08	410.500	0.043*
	Male	59	3.62		
Working experience	Less than two years	9	3.43	0.952	0.621
	Between 2 to 4 years	16	3.85		
	Four years and more	51	3.70		
Qualification	Non-degree holders	53	3.81	579.5	0.252
	Degree holders	26	3.58		
Accounting experience	None	30	3.68	0.197	0.906
	Less than five years	34	3.77		
	More than five years	15	3.78		
Age group	Less than 30 years	41	3.87	2.640	0.267
	Between 30 to 40 years	26	3.61		
	More than 40 years	13	3.58		
Job title	Non-auditor	21	3.66	565.000	0.778
	Auditor	59	3.76		
Department	Major	20	3.84	539.0	0.564
	Minor	60	3.70		

Notes: *The median difference is significant at 10 percent

TABLE 9. Results of differences in perception (Rationalization)

Characteristics		n	Mean	Median	Test statistics	p-value
Gender	Female	20	4.18	4.29	394.500	0.022*
	Male	60	3.69	3.71		
Working experience	Less than two years	9	3.76	3.71	1.234	0.540
	2 and less than four years	16	3.66	3.79		
	Four years and more	51	3.81	4.00		
Qualification	Non-degree holders	54	3.86	3.86	620.5	0.401
	Degree holders	26	3.70	3.93		
Accounting experience	None	30	3.66	3.79	1.871	0.392
	Less than five years	34	3.87	4.00		
	Five years and more	15	4.03	3.86		
Age group	Less than 30 years	41	3.93	4.00	2.195	0.334
	30 and less than 40 years	26	3.79	3.93		
	40 years and more	13	3.55	3.57		
Job title	Non-auditor	21	3.84	3.93	580.500	0.669
	Auditor	59	3.80	3.86		
Department	Major	20	4.04	3.93	496.5	0.249
	Mino	60	3.73	3.86		

Notes: * The median difference is significant at 10 percent

employees. They are in favor of more stringent strategies to prevent people from committing frauds, as according to them the control measures should be capable of reducing the number of opportunities for committing frauds. The responses of the employees indicated a general agreement on the institution of some fraud prevention strategies by banks to curb fraud. Irrespective of the years of experience, the respondents have provided an even response to the attribute of pressure as indicated from the mean and median values. Generally, there was an insignificant difference in perceptions of pressure when compared among employees with different levels of accounting experience. The results also show that younger employees (less than 30 years) seem to view the effectiveness of the strategies practiced by the management as effective (median = 4.00) which is in contrast to the older employees. As the employee aged, their perceptions of effectiveness seem to be stricter (median = 3.57) caused by the higher maturity level. As the employees become more matured, their perceptions on most issues become more serious. Generally, auditors/non-audit under rationalization practice to curb fraud.

Differences in perception of the effectiveness of Opportunity as fraud prevention strategies for selected characteristics

The result in Table 10 indicates a significant difference in perceptions about opportunity between gender ($p < 0.10$). It shows that female employees have significantly higher confidence (median = 4.40) as compared to the male employees (median = 4.00) in terms of giving their perceptions on the importance of the strategies. The statistical test for other characteristics concludes that their perceptions on fraud strategy under Opportunity do

not significantly differ across the categories ($p > 0.10$). Generally, all employees interviewed perceived the bank's measures taken to curb fraud were almost effective (scores of around 4). The female employees perceived that the strategies practiced by the bank should be more drastic where they are in favor of more stringent strategies to prevent people from committing frauds, as according to them the control measures should be capable of reducing the number of opportunities for committing fraud. The general observation on this issue is that the organization should develop and implement a comprehensive system of internal controls that is integrated into an overall strategy of heightened security awareness and practice, as prescribed by Alstete (2006). The results are consistent with the results obtained under "pressure" and "rationalization".

The responses of the employees indicated a general agreement on the institution of some fraud prevention strategies by banks to curb fraud. Irrespective of the years of experience, the respondents have provided an even response to the attributes of pressure as indicated from the mean and median values. Generally, there exists an insignificant difference in perceptions of pressure when compared among employees with different levels of accounting experience. The results also showed that younger employees (less than 30 years) seem to view the effectiveness of the strategies practiced by the management as effective (median = 4.27). As the employee aged, their perceptions of effectiveness appear to be stricter (median = 3.93) since the employees become more matured naturally and their perceptions on most issues become more serious. Generally, auditors/non-auditors and departments have similar perceptions of the effectiveness of the strategies practiced to curb fraud.

TABLE 10. Results of differences in perception (Opportunity)

Characteristics		n	Mean	Median	Test statistics	p-value
Gender	Female	20	4.31	4.40	403.000	0.028*
	Male	60	3.87	4.00		
Working experience	Less than two years	9	3.77	4.00	0.447	0.800
	2 and less than four years	16	4.04	4.13		
	Four years and more	51	3.94	4.00		
Qualification	Non-degree holders	54	3.99	4.10	680.0	0.821
	Degree holders	26	3.97	4.00		
Accounting experience	None	30	3.94	3.97	0.056	0.973
	Less than five years	34	4.01	4.17		
	Five years and more	15	4.04	4.00		
Age group	Less than 30 years	41	4.10	4.27	1.854	0.396
	30 and less than 40 years	26	3.91	4.17		
	40 years and more	13	3.84	3.93		
Job title	Non-auditor	21	3.84	3.87	527.500	0.314
	Auditor	59	4.03	4.20		
Department	Major	20	4.04	4.03	581.5	0.837
	Mino	60	3.73	4.13		

Notes: * The median difference is significant at 10 percent

CONCLUSION

The findings of the study indicated that all strategies are highly effective. The strategies under opportunity revealed through Friedman test perceived to be the most effective. However, the detailed analyses of the practices were compared across selected characteristics where various perceptions were revealed. Positive employee recognition, ethics training, imposing penalty, fraud auditing and disciplinary action were perceived as highly important by the female employees. On the other hand, employees with no degree qualification perceived positive employee recognition and ethics training as the most important. Those with more accounting experience had high perceptions of religious training, whereas those with no accounting experience perceived personal lawsuits as highly important. Furthermore, younger employees felt strongly about having ethic officers and fraud auditing. Also, the non-auditors such as chief financial officer, accountant, shari'ah advisor perceived enforcing regulation, imposing penalty and disciplinary action as more important than the auditors. Those who work in major departments (shari'ah advisory council, finance, treasury, and internal audit) perceived religious training as very important to curb fraud.

Generally, the Saudi bank employees perceived that the fraud prevention strategies practiced by the banking sector seemed to be effective in deterring the bank employees from the misconduct with measures taken under "opportunity" as the most effective and under "pressure" as the least effective. Detailed analyses of each item for each strategy revealed that certain areas could be maintained while other areas need to be improved in terms of monitoring and implementation. For example, the

Anti-fraud policy under Opportunity scored the lowest, thus, decision has to be made as to maintain or further improve this aspect. As far as Pressure is concerned, *Positive employee recognition* needs to be also improved while Employee and support programs need to be critically enhanced by the banks.

For all the three strategies examined to curb fraud, there are significant differences according to gender but towards the positive side. There were more male employees in the sample since Saudi banks employed more male employees than female employees. However, female employees tend to give higher rankings in terms of effectiveness. The female employees seemed to be quite generous in giving their opinions on the importance of steps practiced by the bank. On the other hand, older employees revealed that more changes have to be done in terms of fraud auditing issues whereas the younger employees revealed otherwise. Employees at all job levels perceived that Saudi banks had conducted sufficient effective measures in terms of enforcing regulation to curb fraud.

Nonetheless, this study has some limitations. First, the respondents volunteered to be in the study, thus, the randomness of the sample is questionable to some extent. This is due to the difficulty in getting support from the employee in Saudi Arabian banks which causes the generalizability of the research findings must be viewed in this context. Second, the delay in getting the responses of the employee respondents for the questionnaire. The researcher had to spend considerable time and effort in following up with the employees to send back their questionnaires with responses. Also, there were limitations in terms of data collection due to the corporate and social culture of Saudi Arabia as well as the security

and information sensitivity that banks hold. Finally, the generalization of the findings could be limited to the perception of the internal auditors. Although the internal auditor's opinion could enhance the strategies used in the bank since they are from internal control function, the involvement of a large portion of the audit staffs would skew the results towards having a high perception score. Further studies can be carried out that could examine a wide sample of respondents from different banks in the Gulf Cooperation Countries which could help to explain the fraud cases at this important environment, which have a huge amount of resources and investment opportunities and have similar culture and regulations.

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Tahani Ali Hakami
Faculty of Business Administration, Jazan
University, Jazan, Saudi Arabia

Faculty of Economics and Management
Universiti Kebangsaan Malaysia
43600 UKM Bangi Selangor
E-mail: thakami@jazanu.edu.sa

Mohd Mohid Rahmat*
Faculty of Economics and Management
Universiti Kebangsaan Malaysia
43600 UKM Bangi Selangor
E-mail: mohead@ukm.edu.my

*Corresponding author