

Role of Forensic Auditing in Enhancing the Efficiency of Public Sector Organization

Saifullah¹, Ghulam Abbas²

¹Assistant Professor, SIMT Karachi, saifullahphd@gmail.com

²PhD scholar, Muhammad Ali Jinnah Karachi, abbasaliphd@gmail.com

ARTICLE DETAILS	ABSTRACT
<p>History <i>Received: September 2020</i> <i>Available online: December 2020</i></p> <hr/> <p>Keywords <i>Forensic accounting</i> <i>Financial fraud control</i> <i>Internal control quality</i> <i>Financial reporting credibility</i> <i>Forensic auditing</i></p>	<p>Purpose: The aim of study is to investigate the importance of forensic auditing practices in detecting and preventing financial fraud as well as enhancing the efficiency of Public owned entities. Corruption and frauds both are gargantuan twin brothers that have halted the peace of growth for economy, especially developing nations like Pakistan. Many large scale public owned entities are reeling due to corruption and fraud.</p> <p>Design/Methodology/Approach: Survey was carried out and data were collected from the public sector organizations. Partial Least Square-Structural Equation Modeling (PLS-SEM) was used for data analysis.</p> <p>Findings: The result revealed that forensic accounting and financial fraud control, forensic accounting and internal control quality, forensic accounting and financial reporting credibility has positive role to promote effectiveness of forensic auditing.</p> <p>Implications/Originality/Value: Forensic accounting and financial reporting credibility have positive role to promote effectiveness of forensic auditing. The ultimately Public owned entities performance would be increased by controlling corruption and frauds. Thus, this study has significant insights for practitioners while making the strategies to control corruption and frauds.</p>

1. Introduction

Fraudulent activities in public organizations has major role to decline organizational performance (Hussaini, Bakar, & Yusuf, 2018; Rivera, 2019). Fraud and corruption collectively cost businesses as well as economies hundreds of billions a year and it has the potential to damage reputation of the organization. Major types of fraud and corrupt activities found in both private and public agencies, however, in public sectors these activities are more threatening. Particularly, in public sectors of Pakistan, the condition is verse (Yasin, Tahir, Aslam, Bakhsh, Ullah, Imran, & Khaliq, 2019). Corruption and frauds are the fundamental reason of low public sectors business performance.

In current decade, corporate/white-collar crime's scandals halted the pace of growth for economy as well as caused the collapse of the most world renowned and large scale companies such as WorldCom, Enron, Tyco, K-mart Corp and Global Crossing and also wiping out billions of dollars of shareholder value, and led to the erosion of investors and public confidence in the financial markets (Peterson and Buckhoff, 2004; Rezaee, Crumbley and Elmore, 2004 in Bierstaker, Brody). The Soga of white-collar crime had been often used to depict meticulous types of offense in assorted scholarly work and textbooks on the topic as it was coined by Edwin Sutherland in 1940. The extend and severity of white collar crime in public and private organization in developing world particularly in Pakistani context is in very worst condition as reported by Enterprise Surveys 2015. This international survey was conducted during the period from 2013 to 2015 on 139 countries having 12 topics and more than 100 indictors, the position of Pakistan in South Asia can be viewed from table 1.

Table.1. Position of Pakistan in Respect to the Fraudulent Activities among 139 Countries

Sr. No	Indicator	Offenders (Top Managers)		Comparison of Pakistan with world		
		Female	Male	Pakistan	South Asia	All countries
01	Corruption incidence (percent of firms experiencing at least one bribe payment request)	29.9	30.7	30.8	24.8	17.7
02	Bribery depth (% of public transactions where a gift or informal payment was requested) Top manager is female	27.8	18.8	28.5	21.0	13.8
03	Percent of firms expected to give gifts in meetings with tax officials	24.9	28.7	28.8	19.6	12.9
04	Percent of firms expected to give gifts to secure government contract	94.7	87.4	88.2	45.5	28.9
05	Value of gift expected to secure a government contract (% of contract value)	N. A	27.0	30.9	36.7	15.9
06	Percent of firms expected to give gifts to public officials "to get things done"	56.9	45.0	45.8	25.5	22.0

07	Percent of firms identifying corruption as a major constraint.	50.5	69.4	68.3	40.10	32.7
08	Percent of firms identifying the courts system as a major constraint	36.2	34.5	34.6	16.8	14.6

Source: World Bank Group

Corporate crime the twin brother of fraud means misuse use of vested power for personal benefit that may be a cronyism, bribes, nepotism, artificial pricing, pooling during tendering process, leakage of secret information, kickbacks and political donations all are one kind of fraud. Corruption in Pakistani public owned became a chronic disease since last many decades (Ali, Sohail, Khan, & Puah, 2019), inhibiting investment opportunities by potential foreign and local investors. Causes of these corporate crimes are uncountable one of them is failure of auditing and accounting profession and loose. With this upsurge in corporate crime by making false financial reporting globally, forensic auditing emerged as new tool of fraud detection and prevention (Othman, Ameer, & Laswad, 2019) and also become a topic of great significance for industries research and academic. Corporate world has an immense public trust and great reliance on audited financial and accounting reports as such reports provides bedrock for financial markets. It is clear that auditors at all times must be independent and objective while performance of their duties (Mudessir, 2009). Notorious accounting and financial scandals have attracted a great degree of attention on the rules and regulations of audit profession.

Arjarquah (2009) argues that potential independence and objectivity of the auditors is compromised when any organization or audit firm is offered an audit service by a client. Most famous monetary fraud and audit profession failures like collapse of large corporations such as Enron and WorldCom are just to mention a few. These scandals have captured a lot of focus by media. These high-profile fraud scandals prove ethical failure on the part of executive levels. Failure of audit profession means that accounting profession is also facing a crisis of credibility and confidentiality. Criticism on audit profession is widespread and harsh in the changing economic, social and regulatory climate in which the profession is, at present, functioning (Hemraj, 2002).

Besides, audit malfunction is ranging from allegations on lack of diligence and technical incapability are getting beyond the paper figures to the underlying economic realities, to charge of illegality and deception that amount to gross immorality, in particular where the failure to conduct a proper audit is attributed to a conflict of interest. Auditors do their job in a way that secures their personal careers and their continuing contracts as auditors or to promote the other business interests of their firm, rather than in a way that fulfils their legal and moral professional obligation to shareholders and other stakeholders.

Situation in developing countries like Pakistan, efficient audit practices offered by the auditors in term of their responsibilities has not yet been developed very well (Muluneh 2007). Due to lack of transparent audit activity, public sector organization are in worst condition, wherein nothing could be done without paying bribe. For instance, Rupees 920 million financial corruption scandals were reported by Auditor General of Pakistan in its annual report 2014, Rupees 26 billion financial misappropriations in Pakistan Steel Mills Corporation (Private) Limited were reported by the media and on this media report the Prime Minister of Pakistan sacked the Chairman Pakistan Steel Mills during his speech to the lower house of the Parliament. Financial leakages in Pakistan Airlines (PIA) ticketing system, worth billions of Rupees, were also highlighted by the media in instances above are only few examples of largest public sectors organizations; however, small, medium

and large public sector organizations are reeling due to corruptions.

In spite of high level of corruption as pointed out by the Auditor General of Pakistan, National Accountability Bureau of Pakistan (NAB) and daily high level of corruption news reported by electronic and print media, that raised the dire need of anti-corruption services like forensic auditing as all traditional anti-corruption fails to overcome this evil, yet no serious efforts has been made on government level. Moreover, still no adequate emphasis has been laid to prove especially through survey-based evidence that forensic auditing can help to curb these monetary frauds that are beyond the several anecdotal abound views. Therefore, Study will reflect the importance of forensic auditing with its role in fraud mitigation that will lead to performance of public sectors organization.

To get rid of this chronic disease, government had half-heartedly taken out some steps. However, the outcome of such measures is zero. Where experts consider lack of will to overcome corruption as the major reason there, they also suggest the more innovative measure to be taken to subdue this giant of evil. In such measures, using forensic audit can be a viable option for its role in reducing corruption. Therefore, this study is an attempt to provide a framework to prevent from corruption and frauds. The special focus of this study is Arid Zone Research Institute (PARC), Pakistan, which is one of the public sectors organization. In last few years, there were many cases of corruption were detected. Most of the employees were involved in financial corruption due to which the performance of PARC is suffering. It is needed to detect these fraudulent activities to increase the performance. In this context, the prime objective of existing study is to investigate the importance of forensic auditing practices in detecting and preventing financial fraud as well as enhancing the efficiency of PARC. Consequently, this study has significant insights for practitioners while making the strategies to control corruption and frauds, particularly in PARC.

Involuntary turnover occurs when employees are asked to leave for reasons including poor performance or inappropriate behavior. Company benefits, employee attitude and job performance are all factors which play an important role in employee retention. When a company replaces a worker the company incurs direct and indirect expenses. These expenses include the cost of advertising, headhunting fees, human resources fee and new hiring cost.

2. Literature Review

Mulling out the definition of white-collar crime in scholarly work agreeing upon that all-inclusive to prove in one definition is very tricky. As put by the David Friedrichs, "perhaps no other area of criminological theory has been more plagued by conceptual confusion as that of white-collar crime" (2002). Despite this, few queries on the appropriateness of the relationship of the word "crime" with this term. Study of Herbert Edelhertz inflates on it: the term "white-collar crime" is totally inadequate for this purpose, as is the descriptor "economic crime" that is increasingly used in the Unites States and is the prevailing term abroad. The word "crime" is out of place here because we are dealing with behaviours and activities that, spectrum-like, merge imperceptibly into one another, with legitimate and laudable on one end and the dishonest and disreputable on the other. (1983). A lot of scholarly work has discussed fraud-oriented matters; but the main focus is from fraud prevention. It's a very cheapest and more effectual way of fraud prevent from happening than fraud detraction after its occurrence. Prevention of fraud is more cost effective and effectual as compared to detection, investigation and other processes that become necessary after actual occurrence of fraud. When fraud is committed, the full or partial embezzled amount is unrecoverable or extremely difficult to recover it. Moreover, it's a

very pricey and time-consuming process while investigating the fraud cases, particularly in organizations having large scale and multinational operations. While, if core objective is fraud prevention entire financial losses, whole effort, and time and to retrieve the misappropriated rites can be saved. Study of Thansak (2013) argue that before initiating any efforts to mitigate fraud and to handle with this risk proactively, it's a vital for organizations to identify key rudiments that's leading to deceitful behavior by considering who are fraudsters, why and when frauds are committed. Diverse of theories put their effort to point out the main causes of fraud and two most prominent theories are Fraud Triangle Theory (FTT) present in 1950 by Cressey and second one is Fraud Diamond theory (FDT) that's presented by Wolfe and Hermanson in the year 2004. Both theorists had identified the rudiments that may lead perpetrators to commit fraud. As per the study of Dorminey, Fleming, Kranacher, and Riley (2010), the basis of the FTT dates to the works of Edwin Sutherland (1939) who first time coined the term white-collar crime, and the Cressey was one of Sutherland's former students. Cressey (1950) focused his research on the factors that lead individuals to engage in fraudulent and unethical activity. His research was later on known as FTT. This theory consists of three elements that are necessary or committing fraud: that are being graphically drawn below: (Crassey 1953, p. 742).

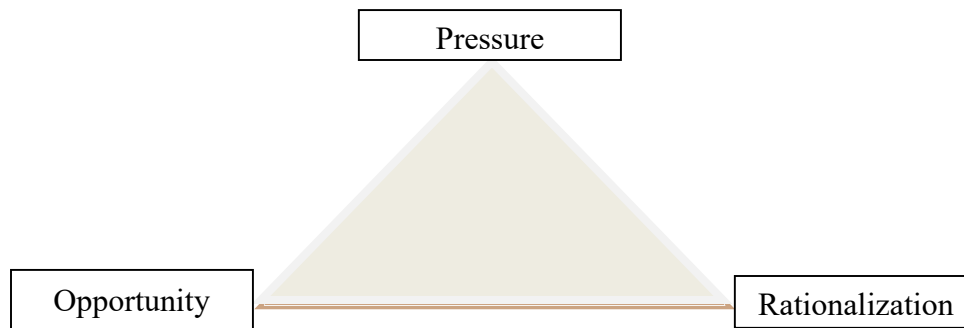


Figure 1. Fraud Triangle
Source: Cressey (1953)

Cressey (1953) key three elements for committing fraudulent act are juxtaposed in the above diagram at figure-1. The most prominent element for committing fraud as pointed out by the research is pressure that is at the top of the diagram. The rest two elements opportunity and rationalization perceived at the bottom (Rasha & Andrew, 2012).

After lapsing the years, this element of fraudulent proposition was renowned as FTT theory. Second fraud theory named as Fraud Diamond Theory that was presented by Wolfe and Hermanson. This theory was first time published in December 2004 in CPA journal. This theory can be said as the expanded version of fraud triangle theory. In this theory over and above FTT only one element of fraud is added which is capability. Wolfe and Hermanson (2004) recommended that even perceived pressure might coexist with an opportunity and a rationalization; it is unlikely for fraud to take place unless the fourth element (i.e., capability) is also present. In other words, the potential perpetrator must have the skills and ability to commit fraud, which is graphically drawn below:

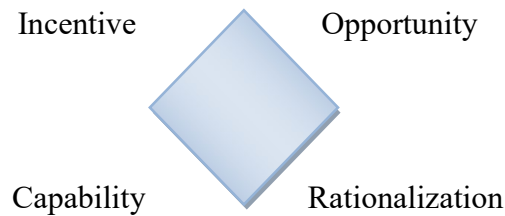


Figure 2. The Fraud Diamond
Source: Wolfe & Hermanson (2004)

Wolfe and Hermanson (2004) argued that the opportunity to commit a fraud unlocks the doors for fraud occurrence; incentive (which is pressure) and the rationalization lead a person towards the door. Though, capability enables the person to recognize the open doorway as an opportunity and to take advantage of it by walking through repeatedly. Discussed in preceding paragraph are the most dominant theories on fraud, the matter is not how to commit a fraud but how to mitigate the risk of fraud or how to control it from occurrence till now no theory has been presented. While as the time past the phenomena of white-collar crime have increasing trend its wrap-ups all the sectors of the economy not only developing countries but also developed economies. In developing countries particularly Pakistan the situation is very worst.

The existing study coalesce both FTT and FDT theories in the examination of potential factors that cause someone to commit white collar/corporate crime. In study of Jeffrey Cohena, Yuan Dingb, Cédric Lesagec and Hervé Stolowy (2008), which was conducted on 39 most world-renowned high-profile corporate fraud cases, the researcher tested all four elements of fraud that were unearthed by FTT and FDT. Study resulted that rationalization / attitudes are key risk factors for committing corporate fraud and further argue that integration of both theories provides a handy framework to analyze corporate fraud. Fourth element capability of fraud in FDT was tested by Baz Rayaan, Rose Shamsiah Samsudin, Ayoib Che-Ahmed, Oluwatoyin Muse and Johnson Popoola (2016) argued that this risk factor play significant moderating role in committing fraud.

Corporate culture, accounting standards, financial reporting system and auditing standards are at juxtaposition retrospect with mitigating and trying to clog the fraudulent activities within the organization. But all fraud mitigating professions are subject to the compliances of devised standards framed by the regulatory authorities. Hence these professions have some limitations while applying fraud detection techniques as the fraud has no boundaries, so there is a need of some special field for mitigating the risk of fraud. Worldwide forensic auditing role has been worldly affirmed as the emerging field in fraud mitigation. Goss (2004:6) state that forensic audit/investigation is searching and collection of facts/data in order to assist in resolving irregularities and/or other corporate crimes. Nickell and Fisher (1999:1) argue that forensic audit/ investigation is in depth exercise applying significant scientific criminal investigation with the purpose to carry out criminal justice. Enofe, Okpako, and Atube (2013) state that forensic accounting may be a better approach as compared to traditional approaches for fraud mitigation. After emerging forensic audit profession as a field of fraud detection these professionals significantly detect frauds higher than traditional auditors (Boritz, Kotchetova and Robinson 2008). Bologna and Lindquist (1995) as quoted by Chariri (2009) avowed forensic auditors as an investigator and specialized in fraud detection are able to extract those documentary evidence that are exactly very essential for the successful criminal prosecution. They are capable to perform their duty to accomplished complex regulatory

requirement, fulfil litigation process, provide realistic accurateness, and reconstruct destroyed, missing or illusory financial and accounting records. To prevent from corruption and frauds, most of the countries are adopting practices of forensic auditing in mitigating the corruption risk and overcoming the inefficiencies of audit. List of countries adopting this profession as a tool fighting against corruption are at Table below:

Table. 2. Countries using Forensic Auditing to Detect Corruption and Fraud

S.No	Country	Rank as a tool	Formal Setting Adopted
1	Indonesia	Foremost Audit Instrument	Developed audit force
2	Iraq	Foremost audit Instrument	Adopted
3	Korea	Foremost audit Instrument	Adopted
4	Philippines	Foremost audit Instrument	Established formal office
5	Russia	Ranked as Second Tool	Adopted
6	Malaysia	Part of regular audit	Adopted
7	Thailand	Adopting As services	Established

Source: Author's own elaboration

Alarming situation in increasing trend of corporate fraud emerge Forensic auditing service as new profession in the field of audit accounts and investigation. It has never been getting so much importance in the past due to having lesser rate of fraud. However, rising spate in corporate scandals, collapsing of world-renowned corporations (Izedonmi&Ibadin 2012), originated mostly by the deceitful action of the management and key position holder in management and mismanagement in public money made the relevance of forensic auditing in building credibility and reliance on the operations more important. The significant of forensic auditing in cupping fraud is inevitable specifically in Pakistani public sector organizations where most management of the institutions are involved in one form of financial scandal or the other. Forensic auditing is an area of expertise in auditing profession that depicts actions resulted from the actual or possible disputes or litigation. The word "Forensic" means "appropriately that can be used before the court of law," having that standard and potential outcome which forensic auditors normally to work (Crumbley, Heitger and Smith, 2005). Forensic auditing is acknowledged as a specialized sort of professional expertise and ability with specific attributes; there cognition comes from possessing a formal certification in forensic auditing which provides emblematic value (Williams, 2002).

Forensic auditing is a science dealing with the application of accounting facts and concepts gathered through auditing methods, techniques and procedures to resolve legal problems which requires the integration of investigative, accounting, and auditing skills (Arokiasamy and Cristal, 2009; Dhar and Sarkar (2010). Stanbury and Paley-Menzies (2010) state that forensic accounting is the science of gathering and presenting information in a form that will be accepted by a court of jurisprudence against perpetrators of economic crime. Hopwood, Leiner, and Young (2008) argued that forensic accounting is the application of investigative and analytical skills for the purpose of resolving financial issues in a manner that meets standards required by courts of law. Degboro and Olofinsola (2007) noted that forensic investigation is about the determination and establishment of fact in support of legal case. That is, to use forensic techniques to detect and investigate a crime is to expose all its attending features and identify the culprits.

Bhasin (2007) argue that main targets of forensic auditing include: estimation of damages that may be cause due to auditors' carelessness, finding of facts to look whether misappropriation has been taken place, in what monetary term, whether criminal procedures are required to be initiated; gathering of documentary evidence as a proof for criminal proceedings; working out of asset values for a divorce proceedings. He further state that key function of forensic auditing is an explanatory nature analysis (cause and effect) of the event as well as discovery of fraud (if any), and its effects bring in to the accounting domain. According to Albrecht, (2005) fraud is not often seeable. He argues that symptoms of the fraud are mostly pragmatic. Symptoms can not necessarily indicate that fraud is being committed as it may be done by the mistakes. Essayist advices are mostly as an alert when fraud is report; it may be a fake accusation. It's a not simple task to prove easily as frauds have itself at safe streak wherever authority would not convict them. It demonstrates that author is explicating that fraud cheaters are getting smarter owing to possible human mistakes can be a cause. It makes very thorny and hard work for detecting and proving fraud for forensic auditors. Therefore, it requires a deeper knowledge and understanding how these swindlers do their deceptive work. Without continuous involvement of public, development in forensic auditing profession, fraudulent act will be very complex to detect. Thus, it leads to high level of success in the field of financial fraud and also decipher into the failure to meet the expectations of public, shareholders or even other stakeholders. Ramaswamy (2005) argue that lack of corporate governance, failure of accounting system is one of the major routes causes why fraudulent cases emerge. It is done due to weak corporate governance process that will lead to the ability of certain personality or a society with same interest to act upon it to commit deceitful action within company. Researcher also argues that problems in financial reporting system are as one of reason due to lack of willpower to compliances of corporate governance. This can also be reinforced by this fact that helm of power of the organization should chase organization policies that will facilitate the organization to perform well. Problem arises from this fact that particular company executives do not have positive approach towards policies. Thus, lack of transparency and honesty for reporting in financial statement is also a serious problem. It's now agreed upon that the auditors do not have the utter responsibility to discover fraud, however auditors must perform their duty in fair way and accurate reporting which ensure that interests of public and employees have b protected. By use of forensic auditing as guidelines, in the light of these guidance auditors can detect suspicious, fraud and other criminal tricks within a company. Futile, inefficient and weak internal control system which is stated by the author points out that a weak management cannot be changed with internal control system. Even that if an organization tries to implement strong internal control systems, then management will still a major factor that influencing on the implementation process. Organizations should look forwards to new techniques and approaches rather than implementing traditional system forensic auditing techniques may be next best alternative in resolving problems.

Accountants' perception regarding fraud prevention methods was studded by Ramazani and Refiie (2010). Study reveals that accountants' perception towards forensic auditing show low level of extent on forensic auditing. Forensic auditing mulled over as one of the best factors used in fraud prevention. (Bierstaker, Brody and Pacini, 2006). Okoye and Gbegi (2013) conducted a study on evaluation of forensic auditing to planning management fraud risk detection procedures. Study results show that forensic auditing efficiently adapt the extent and nature of audit techniques even as risk of management fraud is at high level, forensic auditors offer unique techniques and procedures which are not adopted by traditional auditors. As and when risk of management fraud perceived to be at their high level, forensic auditors develops an effective audit plan involving forensic

auditors in mitigating the risk of management fraud the risk assessment process also leads to better results than simply consulting them.

A survey was conducted by KPMG in the year 2003 with the title of Fraud Survey results of survey show that most companies first time facing fraud incidents compared with past years; taking actions to fight against fraud; and debuting new antifraud programs in response to Sarbanes- Oxley Act of 2002 and (KPMG 2003). Another Global Crime survey was performed by Price water house Coopers' (PWC) 2003 results reveal that 37% respondents belonging to 50 countries opined significant economic crimes that have an average loss sustained per company is \$2,199, 930. These both survey outcomes have more emphasize on forensic auditing education and its practice. Prior research study of (Rezaee, Reinstein, and Landar 1996; Rezaee and Burton 1997; Peterson and Reider 1999, 2001; Rezaee 2002 and Crumbley 2003) reviewed available literature on forensic auditing practices its certifications, and education. All reviewed studies provide empirical evidences demonstrating that forensic auditing education emerge at very limited level, comparing to professional education on practicing accountants, to a current state of being offered as a credit course by several universities.

Empirical evidence proved by the study of Boritz, Kotchetova and Robinson (2008) which corroborates that forensic auditors can significantly detect frauds which are higher number as compared to traditional auditors. Likewise, the study of Srivastava, Mock and Turner (2003) also unearth that forensic audit technique and its procedures significantly having lower level of fraud risks. Moreover, research studies also proved that proactive forensic data analysis techniques employed on computer based sophisticated analytical tests became an able to forensic auditor to detect that kind of fraud which may linger unobserved over the years (Brown, Aiken, and Visser 2007). Study conducted by Bierstaker, Brody and Pacini (2006) regarding accountants' perception on fraud detection as well as its fraud prevention methods. Findings of study recommend that organization employ forensic auditing as least option of any anti-fraud technique but ranked at highest level of effectiveness. Findings are quite similar to the study of Ernst and Young's (2003) conducted on worldwide fraud survey, which affirmed only 20% organizations used forensic auditing while level of satisfaction is 88% high. United States (US) General Accounting Office (GAO) (1996) recommends and has strong emphasis on fraud detection and its prevention at the time of statutory audits. Actually, United States (US) as well as setters of international standards has amplified the conscientiousness of auditors to consider the potential risks of financial fraud during the perform of financial statements audits. It recommends the dire need of forensic skills for audit professional who execute these types of audits.

Okoye and Akenbor (2009) stated about the application of forensic auditing services especially in developing countries like Pakistan, observes that forensic auditing is visage a lot of bottlenecks. Crumbly (2001), Grippo and Ibex (2003) also disclose mention below challenges tackle- ling to the application of this service. (i) An important confront face by forensic auditors is the job is collection of data/formation which is permissible before the court of law. (ii) The acceptability of documentary evidence in conformity to the laws of evidence is very critical job for the triumphant prosecutions of civil and criminal claims. (iii) Worldwide collaboration in economy and it is fact that a hoaxer may belong to any place in the world has led to the problem of inter-jurisdiction.

Degboro and Olofinsola (2007) have observed that most important problem for the application of forensic auditing service as a tool of detecting financial fraud in developing economies like Pakistan is that law is not updated compared to the latest

innovation in technology. Forensic auditing is perceived as pricey service that can only be affordable by largest institutions. Therefore, mostly organizations prefer to resolve the matter outside from the court in order to evade from such expensive cost as well as the risk of horrific publicity and corporate image in the eyes of public and stakeholders. Moreover, forensic auditing is a newly emerging trend mostly for the developing economies. Thus, auditors having adequate technical knowledge and required skills on forensic profession are rarely available.

The above literature/research studies emphasis and recommend forensic auditing as a tool for detecting and preventing against fraud. Although approximately all developed nation after knowing the importance of forensic auditing developed and promote it as profession or part of regular audit also being taught as a credit course at university levels and by professional/chartered institutions. But in the context of Pakistan the area of forensic auditing is being neglected. Instances reported that a large number of studies conducted in western countries and North America has not yet been experienced in Pakistan. Even that colossal corruption is reported in Asian countries, silence of theory writers on this issue is very astounding. (Lou, 2002) Each year huge public money is robbed by these corrupt public servants. (Transparency International, 2009). Forensic auditing can be used as very effective and deterrent tool to prevent the public organization from this situation. To the best of my knowledge, till now no study has been attempted to find out the role of forensic auditing and practice, devising legislations for declaring it as profession like CA and CMA as well as its impacts on organization's performance, mitigating the risk of corruption within public sectors organizations in the context Pakistan. In view of the bureaucratic structure of Pakistani public owned organizations, helm of power does not prefer forensic auditing as deterrent of fraud mitigating tool due to fear of their own mismanagement and not observing best practice of corporate governance. In the best of my knowledge no this type of study is conducted earlier in the context of Pakistan. Existing study is a deviance from other researchers stated in literature review. Focus is on how effectively use forensic auditing tools and their contribution towards fraud detection and prevention, awareness and acceptance level for use of forensic auditing in public sector entities and how it will enhance the efficiency of these organizations. After deep surveys of literature underneath specific alternative hypotheses are being formulated in order test our developed framework (Figure 3).

3. Methodology

Existing study on the effectiveness of forensic auditing services is a cross-sectional in nature; having one-time dimension. Data for evaluation purposes was gathered through different sources from easy excess-able public sector organization (owned and controlled by Federal Government i.e. Government of Pakistan) particularly from those their scandals were remain in limelight on the media at one point in time to provide snapshot of forensic auditing phenomenon. Usually, in cross sectional study method, data is collected by using a survey (questionnaire) method and analyzes is done quantitatively (Ford & Richardson, 1994; Randall & Gibson, 1990).

In Pakistan majority of the public sector organization have bureaucratic structure in nature majority of Internal Audit functions are being performed internally. Therefore, to obtain better and envoy samples, respondent from internal auditors of Arid Zone Research Institute (PARC) were targeted. In existing study data was collect through convenience sampling method. Bryman and Bell (2007) argue that convenience sampling data collection method is generally applied in business and management research. Therefore, for this study convenience sampling data collection technique was considered as reasonable representative because the internal auditors are selected from large public

sectors organization.

Ford and Richardson (1994), Randall and Gibson (1990) recommend that survey or questionnaire base data collection technique is widely used in the business ethics research. Cowton (1998) also extended the view point of Ford and Richardson (1994) by mentioning that business ethics research studies observe the real events occurs in business, management and organizations. It is also stated that very general for business ethics researchers to dig out the difficulties for gathering best data on the attitudes and behavior. He further states that there are always possibilities that the content of the survey used for collecting data may raise sensitive issues to some or perhaps most of the participants. But some researchers prefer to use secondary data like Cowton (1998) says that rising trend of challenge in collecting primary and reliable data in business research is always a hadal faced by the researchers. The researchers, however, found that the constructive and credible is currently difficult to implement. This is because at present no empirical data is available which can provide the researcher with related information needed in this study. The existing study applied personally administered survey base data gathering technique. We prefer to choose the survey base technique of data collection over others like conducting interview as the survey technique is the most sophisticated and suitable tool for collecting data. This technique is quick, cheap and trouble-free tool to apply (Cowton 1998) and also appropriate for large samples. Moreover, survey base data collection technique having no involvement of face to face interaction. Thus, the nonappearance of researcher at data collecting time provide benefits to participants, for instance, the respondent is not under pressure to reply the survey questions. Furthermore, there is a high probability that respondent may give truer and very honest answers. Hence, total 211 valid responses were used for data analysis. Partial Least Square-Structural Equation Modeling (PLS-SEM) was used to analyses the collected data.

4. Results & Discussions

For quantitative description of composed data set, before in-depth analyses we need to check the descriptive statistics of the construct's indicators and their standard deviation, mean, median, minimum value, maximum values, excess kurtosis, Skewness and missing values are the below in Table 3.

Table.3. Data Screening

	No	Missing	Mean	Median	Min	Max	SD	Kurtosis	Skewness
FAFFC1	1	0	3.261	3	1	7	1.547	-0.55	0.091
FAFFC2	2	0	3.275	3	1	7	1.811	-0.6	0.433
FAFFC3	3	0	3.517	3	1	7	1.919	-0.863	0.303
FAFFC4	4	0	3.512	3	1	7	1.936	-0.852	0.383
FAFFC5	5	0	3.555	3	1	7	1.755	-0.546	0.277
FAFFC6	6	0	3.536	4	1	7	1.83	-0.749	0.212
FAFFC7	7	0	3.526	4	1	7	1.876	-0.96	0.13
FAICQ1	8	0	3.711	4	1	7	1.882	-0.825	0.175
FAICQ2	9	0	3.754	3	1	7	1.879	-0.782	0.288
FAICQ3	10	0	3.687	3	1	7	1.985	-0.876	0.337
FAICQ4	11	0	3.597	3	1	7	1.924	-0.81	0.34
FAICQ5	12	0	3.616	3	1	7	1.878	-0.655	0.352
FAICQ6	13	0	3.692	3	1	7	1.864	-0.743	0.279
FAICQ7	14	0	3.507	3	1	7	1.801	-0.513	0.429

FAFRC1	15	0	3.569	4	1	7	1.944	-0.98	0.178
FAFRC2	16	0	3.483	3	1	7	1.856	-0.728	0.297
FAFRC3	17	0	3.668	4	1	7	1.799	-0.691	0.221
FAFRC4	18	0	3.09	3	1	7	1.498	-0.146	0.587
FAFRC5	19	0	3.19	3	1	7	1.531	0.374	0.859
FAFRC6	20	0	3.246	3	1	7	1.466	0.726	0.894
FAFRC7	21	0	3.185	3	1	7	1.46	0.457	0.779
EFA1	22	0	3.137	3	1	7	1.392	0.565	0.686
EFA2	23	0	3.232	3	1	7	1.52	0.281	0.694
EFA3	24	0	3.152	3	1	7	1.485	0.472	0.822
EFA4	25	0	3.043	3	1	7	1.445	-0.282	0.4
EFA5	26	0	3.218	3	1	7	1.37	0.456	0.659
PPSO1	27	0	3.142	3	1	7	1.453	0.166	0.627
PPSO2	28	0	3.133	3	1	7	1.483	0.274	0.7
PPSO3	29	0	3.218	3	1	7	1.441	-0.238	0.513
PPSO4	30	0	3.128	3	1	7	1.41	0.129	0.537
PPSO5	31	0	3.038	3	1	7	1.376	-0.273	0.492
PPSO6	32	0	3.156	3	1	7	1.342	0.166	0.601

Source: Author’s own elaboration

Table-3 reflects the results outcome of questionnaire that demonstrating descriptive statistics of our 05 main construct and each has seven items Forensic Auditing and Financial Fraud Control construct reveals the mean value ranging from 3.261 3.555, construct Forensic Auditing and Internal Control Quality with seven items has mean value ranging from 3.597 to 3.754, construct Forensic Auditing and Financial Reporting Creditability with seven items has mean value ranging from 3.09 to 3.6 construct Forensic Auditing and Internal Control Quality with five items has mean value ranging from 3.137 to 3.218 while the PPSO construct indicates the mean value 3.142 to 3.218.

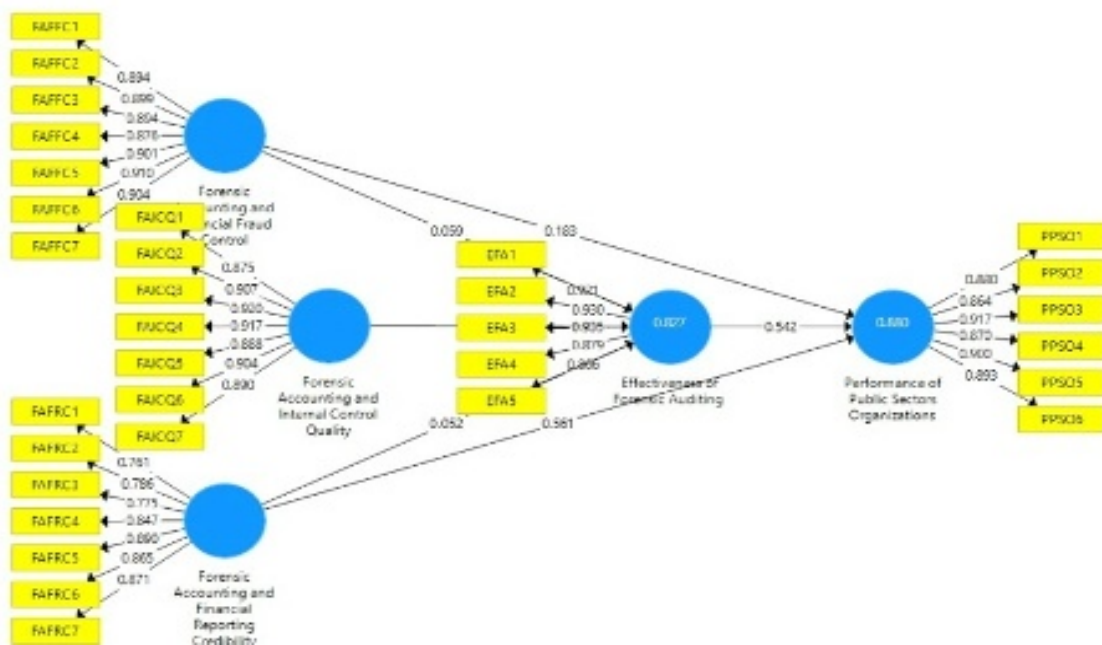


Figure 4. Confirmatory Factor Analysis
Source: Author’s own elaboration

Factor analysis is specifically applied for data reduction and summarization. Factor

analysis indicates the correlations among the set of variables. Factor loading values indicates the correlations between variables and factors. The higher the factor loading value the higher is the correlation and lower the value indicates low correlation. Normally factor loading value should be greater than 0.6 that indicates strong correlation. As factor loading value of all variables are greater than 0.6 that indicates a strong correlation between variables and factors. Our analysis shows the factor loading value ranging from 0.93 to 0.775 which reflects that a significant relationship among the set of variables under study see Table 4.

Table 4. Factor Loadings

	Effectiveness of Forensic Auditing	Forensic Accounting and Financial Fraud Control	Forensic Accounting and Financial Reporting Credibility	Forensic Accounting and Internal Control Quality	Performance of Public Sectors Organizations
EFA1	0.921				
EFA2	0.93				
EFA3	0.935				
EFA4	0.879				
EFA5	0.866				
FAFFC1		0.894			
FAFFC2		0.899			
FAFFC3		0.894			
FAFFC4		0.876			
FAFFC5		0.901			
FAFFC6		0.91			
FAFFC7		0.904			
FAFRC1			0.761		
FAFRC2			0.786		
FAFRC3			0.775		
FAFRC4			0.847		
FAFRC5			0.89		
FAFRC6			0.865		
FAFRC7			0.871		
FAICQ1				0.875	
FAICQ2				0.907	
FAICQ3				0.92	
FAICQ4				0.917	
FAICQ5				0.888	
FAICQ6				0.904	
FAICQ7				0.89	
PPSO1					0.88
PPSO2					0.864
PPSO3					0.917
PPSO4					0.87
PPSO5					0.9
PPSO6					0.893

Source: Author's own elaboration

The rational criterion to measure the consistency reliability is the Cronbach alpha and composite reliability. The value of Cronbach alpha between 0.65 and 0.95 is considered

to be appropriate. In Table 5 all value of Cronbach alpha and composite reliability are lying in the excepted range. This is indicating that there is no issue regarding consistency reliability in data, as consistency reliability and convergent validity both are used to evaluate the reliability of the data and indicators, now its turn of convergent validity. Convergent define the extent to which the indicators of particular construct. The first criteria to check the convergent validity is the factor loadings of the indicators.

Table.5. Construct Reliability and Validity

	Alpha	rho A	CR	AVE
Effectiveness of Forensic Auditing	0.946	0.947	0.958	0.822
Forensic Accounting and Financial Fraud Control	0.959	0.961	0.966	0.804
Forensic Accounting and Financial Reporting Credibility	0.925	0.938	0.939	0.687
Forensic Accounting and Internal Control Quality	0.961	0.962	0.968	0.811
Performance of Public Sectors Organizations	0.946	0.946	0.957	0.787

Source: Author's own elaboration

After empirically examination of reliability and convergent validity through factor loading of indicators, AVE of constructs, Cronbach alpha of unobserved variables and composite reliability (CR) of latent variables, the next measure to examine the discriminant validity through heterotrait-monotrait (HTMT) criteria will check to observe how latent variables (constructs) are different from remaining constructs empirically. In this criterion, all the values should be less than 0.9. It is shown in Table 6.

Table.6. Discriminant Validity

	EFA	FAFC	FAFRC	FAICQ	PPSQ
Effectiveness of Forensic Auditing					
Forensic Accounting and Financial Fraud Control	0.734				
Forensic Accounting and Financial Reporting Credibility	0.843	0.813			
Forensic Accounting and Internal Control Quality	0.664	0.866	0.875		
Performance of Public Sectors Organizations	0.872	0.696	0.834	0.632	

Source: Authors own elaboration

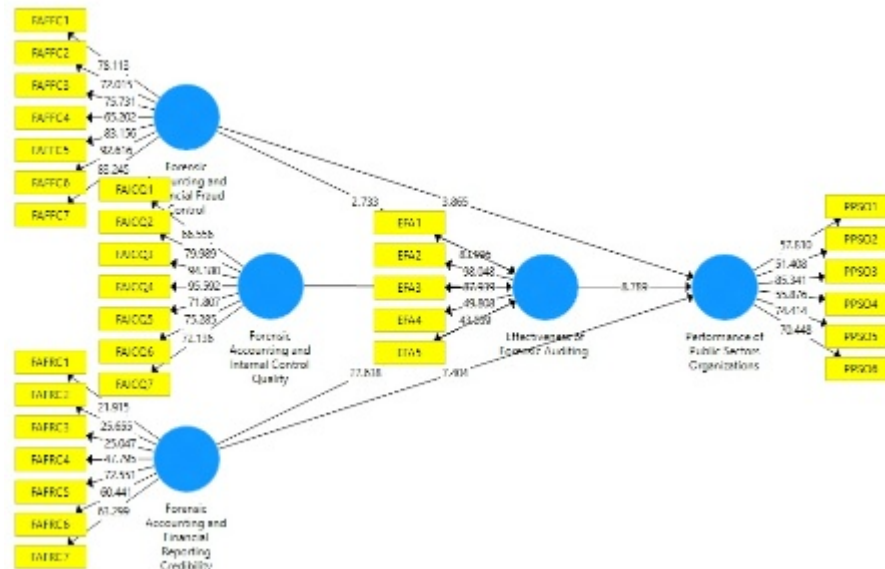


Figure.5. Structural Model Assessment
 Source: Author’s own elaboration

Prior to hypothesis testing we conducted factor analysis which reflects that all variable under study are valid and correlated. After confirmation of validity and their correlation the hypothesis testing has been done through PLS-SEM. First of all, we try to measure the effectiveness of forensic auditing through different sub-construct in preventing the organization from fraud. We have tried to measure the effectiveness of forensic auditing through our construct first the Effectiveness of Forensic Auditing on the Performance of Public Sectors Organizations the results reveals that value of original sample is 0.542 its sample mean is 0.539 which reflects the risk within the public sector organization having variation measured through standard Deviation (SD) having meager variation that is 0.062 value of T-Statistics is 8.789 greater than 1.96 and P-Value is 0.00 mean forensic auditing is a best tools in mitigating the fraud risk within the public sector organization that leads to performance likewise our second risk tool is Forensic Accounting and Financial Fraud Control impact on effectiveness of forensic auditing are also supported having T-Value 2.733 and P. Value is 0.007 as well as it impact on the performance is fantastic we can see the SD value is 0.047 very meager variation from the mean (0.18) the T-statistics reflects 3.865 and P-value is 0.00 decision is supported. The rest variable is Forensic Accounting and Financial Reporting Credibility that have direct impact on Effectiveness of Forensic Auditing, and this has direct impact on the performance of public sector organization having T-Value- 27.638 and P-Value 0.00 the decision is supported. The variable Forensic Accounting and Internal Control Quality has direct impact on the effectiveness of Forensic Auditing and Forensic auditing has impact on the performance of public sector organization the analysis results reveal the T-Value- 7.404 and P Value -0.00 hence decision is supported. Our last variable is Forensic Accounting and Internal Control Quality that has direct impact on the effectiveness of Forensic Auditing that has impact on the performance of public sector organization the results reveals that T-Value-3.92 and P-value 0.00 hence decision is supported all results can be viewed from the table below:

Table.7. Direct Effect

	O	M	SD	T Values	P Values
Effectiveness of Forensic Auditing -> Performance of Public Sectors Organizations	0.542	0.539	0.062	8.789	0
Forensic Accounting and Financial Fraud Control -> Effectiveness of Forensic Auditing	0.059	0.05	0.022	2.733	0.007
Forensic Accounting and Financial Fraud Control -> Performance of Public Sectors Organizations	0.183	0.18	0.047	3.865	0
Forensic Accounting and Financial Reporting Credibility -> Effectiveness of Forensic Auditing	1.052	1.053	0.038	27.638	0
Forensic Accounting and Financial Reporting Credibility -> Performance of Public Sectors Organizations	0.561	0.563	0.076	7.404	0
Forensic Accounting and Internal Control Quality -> Effectiveness of Forensic Auditing	0.254	0.244	0.066	3.819	0
Forensic Accounting and Internal Control Quality -> Performance of Public Sectors Organizations	0.201	0.197	0.051	3.92	0

Source: Author's own elaboration

Table.8. In-Direct Effect

	O	M	SD	T Values	P Values
Forensic Accounting and Financial Fraud Control -> Effectiveness of Forensic Auditing -> Performance of Public Sectors Organizations	0.032	0.028	0.044	0.726	0.468
Forensic Accounting and Financial Reporting Credibility -> Effectiveness of Forensic Auditing -> Performance of Public Sectors Organizations	0.57	0.568	0.066	8.587	0
Forensic Accounting and Internal Control Quality -> Effectiveness of Forensic Auditing -> Performance of Public Sectors Organizations	0.138	0.132	0.039	3.492	0.001

Source: Author's own elaboration

The coefficient of determination that measures the model accuracy that can calculate by squared between dependent unobserved variable and projecting values. Greater the value of R-square (R^2) construed that independent variables are more clarifying explain constructs. The value range of constructs from 0.25 to 0.50 is acceptable as per (Hair, Ringle, & Sarstedt, 2011). In this study, R-Square value is 0.88 which is substantial. As highlighted in Figure 4. Predictive relevance (Q^2) must be above zero to attain the minimum level of model quality. It is highlighted in Table 9.

Table. 9. Predictive Relevance (Q^2)

	SSO	SSE	$Q^2 (=1 - SSE/SSO)$
Effectiveness of Forensic Auditing	1,055.00	384.121	0.636
Performance of Public Sectors Organizations	1,266.00	448.167	0.646

Source: Authors own elaboration

Discussion on findings

Findings of the study revealed that forensic accounting and financial fraud control,

forensic accounting and internal control quality, forensic accounting and financial reporting credibility has positive role to promote effectiveness of forensic auditing which ultimately increases the PARC performance by controlling corruption and frauds. Financial/corporate/white-collar crime is real phenomena and widespread in modern business world especially in developing countries publicly owned entities like Pakistan. This increasing trend in public owned entities has not only the cause to collapse the organization but also halted the peace of growth for economy. Thus, there is a dire need to arrest it before it is too late, and it becomes a chronic disease. The new emerging branch in the field of auditing is a forensic auditing that has a sole aim to detection of deceitful actions inside and outside the organization so far as the third party's action is in any way reflective on the activities of that organization. Existing study unearthed that there is significant harmony among stakeholders on the effectiveness of forensic auditing in fraud control, improving public confidence on financial reporting system as well as internal control system of the organization. Forensic Auditors therefore become more vigilant about the potential risk of fraud and other illicit, deceitful activities during perform of their duties. They can also be made to provide significant assistance in preventing, investigating and resolving such issues. Forensic auditing meditating variable has significant positive influence on the performance of public sectors organization. In line with the above findings, we recommend that the Institute of Chartered Accountants of Pakistan (ICAP), Institute of Cost and Management Accountant of Pakistan (ICMAP) and the Higher Education Commission (HEC) of Pakistan should encourage formalization and specialization in the field forensic auditing. In addition, the government should develop interest in forensic auditing for monitoring and investigation of suspected corruption cases. Fraud perpetrators and other who provide them support in committing fraud should be properly sanctioned without any political and administrative favor.

6. Implications of the Study

This study will give a new vision towards public sector organizations that have desire to educate and increase awareness among the public concerning on the seriousness of fraud in Pakistan. The result of this study will lead to increase the awareness and acceptance level of forensic auditing. Besides, the result of this research also gives an understanding and awareness of the role of forensic auditing. Ultimately this study hopes to protect the interest of stakeholder of public sector organizations. Further the study is being expected to help out various group of Pakistani society as follows:

For government: Through Security and Exchange Commission of Pakistan (SECP) and other regulatory authorities in devising strategy towards enhancing the efficacy of forensic auditing services in tumbling the extent of monetary frauds occurring in public sectors institutions. Trade policy, import and export are also being affected by this information. Result of study can be used as underling guideline for devising police on Government level for declaring forensic auditing as profession or integral part of statutory audit in Pakistan.

For Academicians and Researchers: Existing study provides the roots to future potential academicians and researchers who are interested to conduct research on the roles and effectiveness of forensic auditing service application likewise accounting as acceptable and well-known profession over the years therefore, causative for theory building that may indicate whether forensic audit services are fully applicable in public sector institutions. Study will also increase the existing body of knowledge and provide a source

of reference to further empirical studies into the little-known ways of fraudulent practices in banks.

For investors: Presently Government of Pakistan trying to attract new potential investors to invest in government entities. This policy is newly introduced with the name of Public private Partnership. The study will help to potential investors and current investors in providing information and importance about this service. It will help them in making decision for investment whether to invest in these entities or not. Potential investors of these entities will prefer to investment in those entities having least level of fraudulent activities by complying devised policies properly and also incorporating forensic auditing services.

For management of public sector organizations: Existing study will propose recommendation for internal control system which public sector organization can implement in order to reduce likelihood for fraudulent activities and more strengthen the efficacy of this services for the survival of public sector organizations. If indeed these services can prevent fraudulent activities, the management would rethink its policies and regulations to spur confidence in the market and also enable the management to know the future performance of their companies

References

- Albrecht, W.S. (2005). Identifying fraudulent financial transactions: A framework for detecting financial statement fraud, Brigham: Brigham Young University.
- Ali, M., Sohail, A., Khan, L., & Pua, C. H. (2019). Exploring the role of risk and corruption on bank stability: evidence from Pakistan. *Journal of Money Laundering Control*.
- Arokiasamy, L., & Cristal-Lee. S. (2009). Forensic accounting: Public acceptance towards occurrence of fraud detection. *International Journal of Business and Management*. 145-160
- Baz Rayaan, Rose Shamsiah Samsudin, Ayoib Che-Ahmed, Oluwatoyin Muse and Johnson Popoola (2016) The Moderating role of Capability Element of fraud on Internal Industry Factors and Fraud Prevention in Saudi Arabian Banking Sector paper presented at International Conference on Accounting Studies (ICAS) 2016 15-18 August 2016, Langkawi, Kedah, Malaysia.
- Boritz, J.E., Kotchetova, N., & Robinson, L.A. (2008). Planning Fraud Detection Procedures: forensic Accountants Vs Auditors. [Available at [http://aaahq.org/meetings/AUD2009/ Planning Fraud Detection Procedures. pdf](http://aaahq.org/meetings/AUD2009/Planning%20Fraud%20Detection%20Procedures.pdf)].
- Balogna, G.J. and J.I. robert. (1995). *Fraud Auditing and Forensic Accounting: New tool and Techniques*. New York: John Wiley and Sons.
- Bhasin, M., 2007. Forensic Accounting: A New Paradigm for Niche Consulting. The Chartered Accountant, Country, pp: 1000-1010.
- Bierstaker, J. L., Brody, R. G., & Pacini, C. (2006). Accountants' perceptions regarding fraud detection and prevention methods. *Managerial Auditing Journal*, 21(5), 520-535.
- Brown, A., Aiken, P., & Visser, L. (2007). Reducing fraud: A programme that will deliver benefits on the bottom line. *Accountancy Ireland*, 39(6), 28-30.
- Crumbley, D.L., Heitger, L.E., & Smith, G.S. (2005). Forensic and Investigative Accounting. CCH Group, Chicago, IL
- Curtis, G. E. (2008). Legal and regulatory environments and ethics: Essential components of fraud and forensic accounting curriculum. *Issues in Accounting Education*, 23(4), 535-543

- Chariri, A. (2009) The Relevance of Forensic Accounting in Detecting Financial Frauds. Published by Centre for Accountability, Shariah & Forensic Accounting Studies
- Degboro, D. and J. Olofinsola, 2007. Forensic accountants and the litigation support engagement. *Niger. Account.*,40(2): 49-52.
- Dhar, P., & Sarkar, A. (2010). Forensic accounting: An accountant's vision. *Vidyasagar University Journal of Commerce*,15(3), 93-104.
- Enofe, A.O., Okpako, P.O., &Atube, E.N. (2013). The Impact of Forensic Accounting on Fraud Detection. *Journal of Business and Management*, Vol. 5, No. 26.
- Ernst & Young. (2003). *Fraud: Unmanaged risk*. 8th global survey. Global investigations dispute advisory services, South Africa.
- Goss, P. 2004. Module D (4) Forensic Auditing. (Unpublished). Johannesburg: Rand Afrikaans University.
- Hussaini, U., Bakar, A. A., & Yusuf, M. B. O. (2018). The Effect of Fraud Risk Management, Risk Culture, on the Performance of Nigerian Banking Sector: Preliminary Analysis. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 8(3), 224-237.
- Jeffrey Cohena, Yuan Dingb, Cédric Lesagec and Hervé Stolowy (2008) the role of managers' behavior in corporate fraud
- James, O. K., & Ibanichuka, E. A. L. (2014). Financial control and the challenges of fraud prevention in the banking industry, *International Journal of Research in Management*, 4(4).
- KMPG. (2003). Forensic and Fraud Survey. Montvale, NJ.
- Nickell, J. & Fisher, J.F. 1999. Crime science: methods of forensic detection. Lexington, KY: University Press of Kentucky.
- Okoye E.I and Akamobi N.L (2009): The Role of Forensic Accounting in Fraud Investigation and Litigation Support. *The Nigerian Academic Forum Vol 17 No1*.
- Okoye, E.I., & Gbegi, D.O. (2013). An evaluation of forensic accountants to planning management fraud risk detection procedures. *Global Journal of Management and Business Research*, 13(1), 1-17.
- Othman, R., Ameer, R., & Laswad, F. (2019). Forensic Auditing Tools in Detecting Financial Statements' Irregularities: Benford's Law and Beneish Model in the Case of Toshiba. In *Organizational Auditing and Assurance in the Digital Age* (pp. 256-275). IGI Global.
- PricewaterhouseCoopers (2003). Global economic crime survey. Retrieved from <http://www.pwc.com/extweb/ncsurvers.nsf>.
- Peterson, B. K. & Buckhoff, T. A. (2004). Anti-fraud education in academia. *Advances in Accounting Education: Teaching and Curriculum Innovations*, Vol. 6, pp. 45-67.
- Rasha, K., & Andrew, H. (2012). The New Fraud Triangle, *Journal of Emerging Trends in Economics and Management Sciences*, Vol. 3(3): Retrieved from google.com July 13, 2014.
- Ramaswamy, V. (2005). Corporate governance and the forensic accountant. Retrieved from: <http://www.nysscpa.org/cpajournal/2005/305/essentials/p68.htm>.
- Ramazani, M., & Rafiei, A. H. (2010). Iranian accountant's conception of the prevention methods of fraud and offering some recommendations to reduce fraud in Iran. *Global Journal of Management and Business Research*, 10 (6),31-45.
- Rezaee, Z., Crumbley, D. L., & Elmore, R. C. (2004). Forensic accounting education. *Advances in Accounting Education: Teaching and Curriculum Innovations*, Vol. 6, pp. 193-231.
- Rivera, E. (2019). Detect fraud, improve internal control using popular strategy, performance tool. *International Journal of Government Auditing*, 46(2), 27-28.

- Stanbury, J., & Paley-Menzies, C. (2010). Forensic Futurama: Why Forensic Accounting Is Evolving. Retrieved from <http://www.aicpa.org/publications/Newsletters/AICPACPAInsider/2010/jun28/pages/forensicfuturamaWhyforensicAccountingIsEvolving.aspx>.
- Srivastava, R. P., Mock, T. J., & Turner, J. L. (2003). *The effects of Integrity, opportunity, incentives, mitigating factors and forensic audit procedures on fraud risk*. Business and information management auditing research workshop, Australian national university.
- Thanasak, R. (2013). The Fraud Factors. *International Journal of Management and administrative Sciences (IJMAS)* (ISSN: 2225-7225) Vol. 2, No. 2, pp. 01-05.
- Wells, J. T. (2005). *Principles of fraud examination*. Hoboken, N.J.: John Wiley & Sons Inc
- Wells, J. T. (2011). *Corporate Fraud Handbook: Prevention and Detection: 3rd Edition*: Hoboken, New Jersey: John Wiley & Sons Inc.
- Wolfe, D., & Hermanson, D. R. (2004). The fraud diamond: Considering four elements of fraud. *The CPA Journal*, 74 (12), 38-42.
- Williams, J. W. (2002). *Playing the Corporate Shell Game: The Forensic Accounting and Investigation Industry, Law, and the Management of Organizational Appearances*. Doctoral Dissertation, Toronto: York University.
- Yasin, M., Tahir, N., Aslam, M., Bakhsh, A., Ullah, S., Imran, M. A., & Khaliq, M. T. (2019). The Impact of Nepotism on Employment Status in Public Sector Institutions: An Evidence from Fresh Graduates of Pakistan. *Journal of Economic Impact*, 1(1), 07-11.