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Detection and Prevention of Financial Crimes: An Application of Fraud Triangle Theory in KP Pakistan

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ABSTRACT

Detection and prevention of fraudulent practices is a challenging assignment in developed and developing countries. The efforts become more crucial in the government sector, as public trust in institutions, government officials and resources. Dishonest workers and employees try to cheat the official machinery for personal benefit. Therefore, knowing why individuals drifted towards financial criminal practices is imperative. Thus, this study aims to find the relationship between fraud incidents and the fraud triangle theory (FTT). To achieve this purpose, a well-designed survey was conducted, and questionnaires were distributed to accountants, auditors and administration staff of three selected districts of Khyber Pakhtunkhwa (KPK), Pakistan. Structural equation model (SEM), correlation analysis and demographic analysis were used to analyse the data. Results revealed a significant relationship between elements of FTT and fraud incidents in the Pakistani public sector. The study recommended that the government should focus on salary and other financial incentives for employees to improve their living standards.

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INTRODUCTION

In recent years, financial fraudulent practices such as money laundering, investment scams, funds embezzlement and corruption culture are widely spread all over the world (Hooker, 2009; Mejri et al., 2022). Fraudsters commit fraud to fulfil their unlimited human wants, such as greediness, living beyond their means, large expenses, personal debt, family financial problems, drug addiction, and poor living standards (Knight, 2013). To detect and prevent these fraud practices, the country's financial institutions hire services of professional accountants and auditors and adopt forensic accounting procedures. Effective implementation of forensic accounting procedures and hiring services of professional accountants and auditors significantly help to combat financial criminal practices (Abou-Zeid et al., 2020). According to the survey report of the Global Corruption Barometer (2017), Pakistan ranked fourth most corrupt country in the Asia Pacific region and ranked at 133^{rd} position out of 180 countries in 2023. According to the survey report by Transparency International in 2017, Pakistan ranked 117th out of 180 countries, whereas it was ranked 124th in 2020 and moved towards a worse position of 140 in 2022. The statistics showed that the culture of financial corruption reduced after 2012 but has increased since 2016.

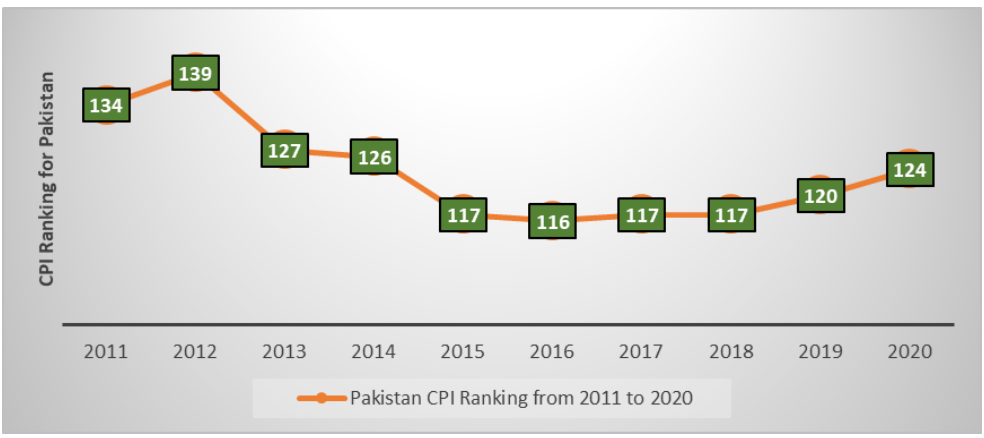

Figure 1: *Pakistan Corruption Ranks 2010-2020, Transparency International (2021) Corruption Perception Index*

The perception of the country as a corrupt economy is clearly evident, and financial institutions are so weak that they either have no forensic auditing procedures or are weak in implementing procedures against financial criminals. Earning capital from illegal resources indicates the weaknesses in the government policies against money laundering (Aluko & Bagheri, 2012). Money

launders transfer illegal money into agents' accounts and then withdraw this money through legal ways. This represents the complete failure of financial institutions to detect and prevent financial crimes (Reuter (2005). Rapidly increasing financial criminal activities are due to a lack of proper experience, unprofessionalism and incompetency in managing the accounts (Iqbal & Aslam, 2020). Due to low income, fulfilling unlimited human wants and greed is a push factor that compels financial institutions' accountants and auditors to become involved in criminal practices and help fraudsters by providing loopholes in the system. Some of the worst financial scams in the history of Pakistan, like the Mehran bank scandal (1990), the Khanani and Kalia foreign exchange (2008), the cash smuggling case of Ayyan Ali (2015) and the Panama Leaks (2016), are evident of the poor corporate governance and financial system (Ali, 2020; Qureshi, 2018; Salman & Siddiqui, 2013). Thus, based on the facts provided, there is an imperative need to address the major elements that force employees to become involved in the activities of financial crime. In this regard, all of the above-mentioned activities are related to elements of the fraud triangle theory. Hence, the important question to address is, do the elements of the fraud triangle theory influence curbing fraudulent or financial corruption activities in government institutions? Therefore, the study's objective is to analyse the impact of elements of fraud triangle theory - perceived pressure, perceived opportunity and rationalisation- on fraud likelihood or incidence. As the current study focuses on the financial aspects of fraud and fund embezzlements, the researcher's objective is to cover only the economic and financial elements of FTT.

LITERATURE REVIEW

Fraud Incidence

Fraud is an intentional deception, dishonesty, cheating and misuse of public or private funds for personal benefit (Mandal, 2024). The important categories of fraud, such as misrepresentation in a firm's documents, manipulation of accounts, over-invoicing, blackmailing, and underpayment of tax and duties on importing and exporting, create a negative impression on society and the economy.

The results of this study showed that there is a significant relationship between fraud triangle theory and fraud occurrence (Abdullahi & Mansor, 2018). To examine the employee's behaviour in this study using the combination of the Fraud triangle theory and theory of planned behaviour. Most importantly, the rationalisation behaviour of the employee is difficult to assess for auditors to use the elements of FTT (Cohen et al., 2012). Fraudsters commit criminal

financial practices due to financial problems, greed, and pressure (Sahla & Ardianto, 2023). For the detection and prevention of financial crimes, countries need to improve their audit standards and internal control systems (Mangala & Kumari, 2017). Fraudsters, after committing fraud, provide many justifications to rationalise their behaviour. Corrupt financial practices negatively affect developing countries' economies (Nugraha & Susanto, 2018). Financial crime agencies act against fraudulent practices. To protect, they use modern investigation and prosecution techniques that positively impact financial disputes (Adagye & Bashir, 2020).

The Indian banking sector and economy suffer huge financial losses due to criminal financial disputes. This is undetectable due to advancements in information technology (Khare, 2020). Financial fraudulent practices are committed due to the low integrity of managers and weak internal management systems. To reduce the practice of financial crime, auditors have played their role in Chinese listed firms (Chen et al., 2013).To reduce the ratio of criminal financial fraud practices, they are taking the services of professional forensic auditors. Additionally, the study discussed white collar crime theory, fraud diamond theory and fraud root theory to achieve a desired objective (Adesina et al., 2020). The culture of financial corruption is increasing rapidly in the Nigerian public sector. As a result, the country's economy suffers huge losses, and it damages investor's confidence as well (Popoola et al., 2016). These days, fraud risk factor is a challenging task for business organisations in the UAE. The core objective of this study is to analyse the relationship between corporate fraud and IT in UAE companies (Halbouni et al., 2016). The increasing number of cases of fraud and corruption in Zimbabwe demands forensic auditing. This helps to minimise the level of fraudulent practices (Madzivire et al., 2020).

Some famous financial scandals are related to the (UK and US) history. Where fraud practices are committed to provide benefits to the company's shareholders, managers and certain powerful groups (Toms, 2019). To examine the World-famous failure of the corporate governance system in Europe and America, analysts use the theoretical framework of FTT to analyse data between these two countries (Soltani, 2014). In recent years, the world's most developed countries, like Europe, the USA and Canada, have faced corruption cases due to weak internal management control systems (Peltier-Rivest, 2018). Increasing the ratio of financial criminal activities all over the world. Fraudsters use accounts of money mules for illegal purposes. The complexity of this illegal fund-transferring process from different money mules accounts is difficult for anti-corruption agencies to investigate (Raza et al., 2020). Moreover, the accountability process of the government of Khyber Pakhtunkhwa is also discussed. Anti-corruption bodies of KP amendment in policies according to international standards help

detect and prevent fraud in the early stages of an organisation (Imran et al., 2020).

Fraud Triangle T heory

Most financial organisations all over the world face huge losses due to large-scale fraud in their organisations. Under the elements of the fraud triangle theory, employees are motivated to commit fraudulent practices. There are many theories that describe the causes of fraudulent practices, but the most cited theory is the Fraud Triangle Theory (FTT) of Cressey (1953). This theory was based on three elements, i.e. perceived pressure, opportunity and rationalisation, as endorsed by the researchers in academic as well as financial contexts (Alshurafat et al., 2023; Cheliatsidou et al., 2023;) (Rahman & Jie, 2024). To describe the important elements of this theory, pressure helps to commit fraud due to greed or large expenses (Alzahrane, 2023). Employees take external or internal pressure, or it may be personal (Sahla & Ardianto, 2023). Moreover, some other researchers describe six more categories of pressure which motivate fraudsters to become involved in fraudulent activities (Albrecht et al., 2006). The below figure 2 explains elements of the fraud triangle (Mansor, 2015).

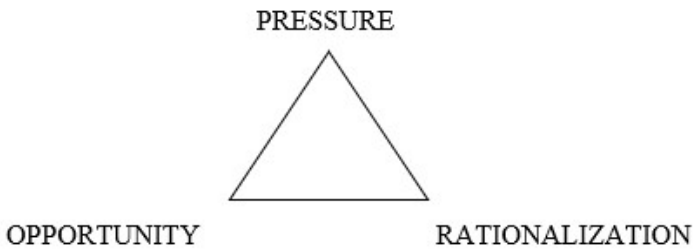

Figure 2 Fraud Triangle (Source: Wells J.T. (2005)

Figure 2: *Fraud Triangle (Source: Wells J.T. 2005)*

Opportunities will be available due to weaknesses in the organisation's internal control system. Fraudsters exploit these situations and commit fraud (Sahla & Ardianto, 2023). Rationalisation is the last element of FTT (Kassem & Higson, 2012). Rationalisation refers to the employee's dishonest and undefined behaviour or personal integrity to commit fraud (Sahla & Ardianto, 2023). Rational behaviour of employees is a difficult task for anti-graft bodies' investigation procedures because most fraudsters provide many excuses and

justifications for their criminal offences (Mansor, 2015).

Thus, on the basis of the above discussion, the following hypothesis has been formed to support the initiation of this study. These hypotheses are related to elements of fraud triangle theory and fraud likelihoods. H1: There is a significant relationship between the perceived pressure to commit fraud and fraud likelihood. H2: There is a significant relationship between the perceived opportunity to commit fraud and fraud likelihood. H3: There is a significant relationship between the rationalisation to commit fraud and fraud likelihoods.

Data and Methodology

The conducted research is empirical in nature, examining the relationship between fraud incidents as an endogenous variable and fraud triangle theory as exogenous latent variables with the help of a quantitative approach. A well-structured questionnaire survey was used to gather data. The population for this study was comprised of 52,613 individuals, including accountants, auditors, and administration staff from selected districts of Khyber Pakhtunkhwa (KPK), Pakistan. A simple random sampling technique was used for the selection of participants, and the sample size was set at 384 participants, as suggested by Chochran's formula for sample size determination. The researchers distributed 450 survey questionnaires among the participants. Questionnaires were administered using the method and personal visits to determine the participant's responses to the detection and prevention of financial crimes under the application of FTT. About 408 filled questionnaires were received with a response rate of 90%, and 400 responses were found eligible for analysis. To study the nature and behaviour of the gathered data, descriptive statistics, correlation analysis, regression analysis, Cronbach's Alpha and structural equation modelling (SEM) were used. The following model was used to analyse the results.

$$FL_i = \beta_0 + \beta_1 PP_i + \beta_2 PO_i + \beta_3 R_i + \varepsilon$$

Where FL is fraud likelihood, PP is perceived pressure, PO is perceived opportunity, and R is rationalisation.

With reference to decoding and transformation of variables, we have four categories/variables of the fraud triangle, i.e. (perceived opportunity, rationalisation, fraud likelihood and perceived pressure) and each variable contains six items/questions, measured on a 10 Likert scales, i.e. (1 to 10). So, the minimum score of each item is 6 (6 *1), and the maximum value can be 60 (6*10). Descriptive statistics value may fall in the range of 6 to 60, which is presented in Table 1, page 7.

Theoretical Framework

Under the fraud triangle theory, employees are motivated to commit fraudulent practices. To describe the important elements of this theory, pressure helps to commit fraud due to greed or large expenses, opportunity will be availed through organisation weaknesses to commit fraud, and rationalisation is dishonest and undefined behaviour or personal integrity to commit fraud (Mansor, 2015).

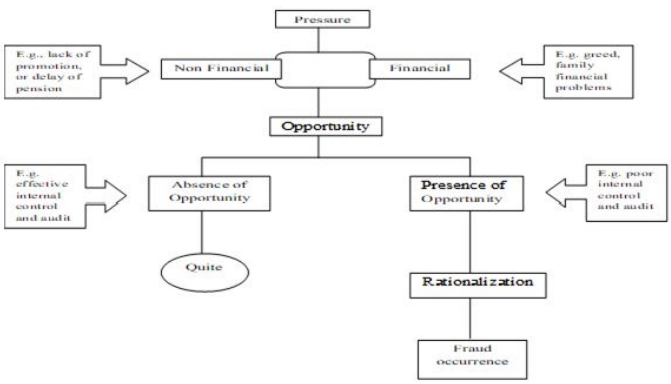

Figure 3: *Elements of Fraud Triangle Theory proposed by Donald Ray Cressey in 1953*

The descriptive statistic of this study, as shown in Chart 1 , revealed that the perceived pressure mean value was 36.04. The overall minimum value PP is 6, and the highest value is 60 respectively. The mean value of the perceived opportunity is 42.63. The minimum and highest values of PO are 6 and 60, respectively. The overall mean value of rationalisation is 37.85. Rationalisation (R) minimum value and maximum values are 6 and 60, respectively. The summary statistic of fraud likelihood (FL) shows that the average value is 44.56. The maximum value of FL is 60, and the lowest value is 6, respectively. The summary of descriptive statistics is as follows:

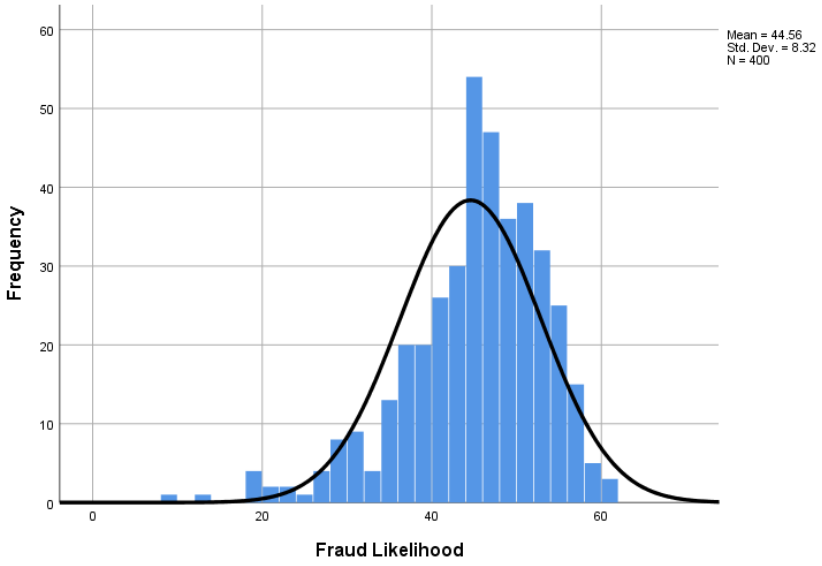

Figure 4:

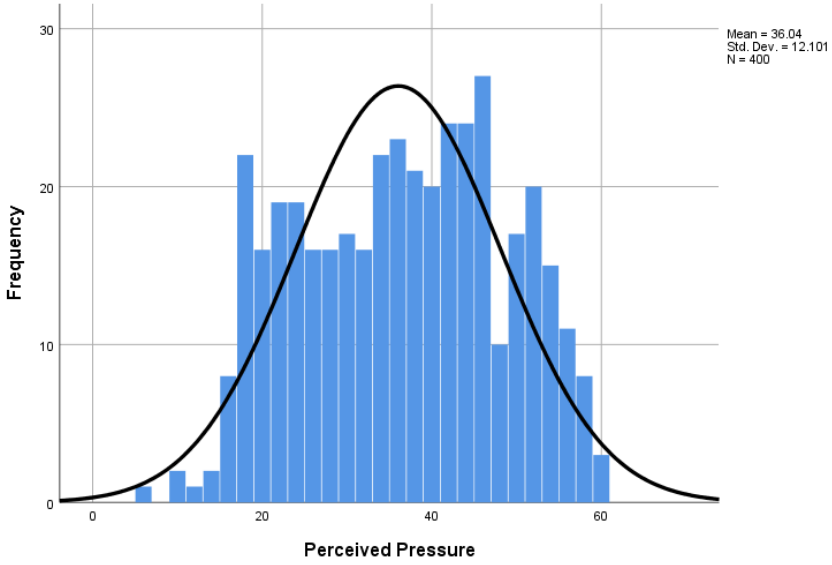

Figure 5: *Histogram Analysis*

Table 1: Descriptive Statistics

	Minimum	Maximum	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Perceived Pressure	6	60	36.04	-.074	.122	-.979	.243
Perceived Opportunity	6	60	42.63	-.862	.122	1.163	.243
Rationalization	6	60	37.85	-.229	.122	-.622	.243
Fraud Likelihood	9	60	44.56	-1.019	.122	1.572	.243

Chart 1:

CHART 1: DESCRIPTIVE STATISTICS

Descriptive statistics measures the central tendency and variability of the given data. In Figure 4, the perceived preference mean value is 36.04 with a standard deviation value of 12.10, and the perceived opportunity mean value is 42.63 with a standard deviation value of 9.05. The rationalisation mean value is 37.85 with a standard deviation value of 10.98, while the fraud likelihood mean value is 44.6 with a standard deviation value of 8.32. Histograms represented a normal distribution for this study analysis.

Demographic analysis of respondents is comprised of gender, age, qualification, working department of the respondents and service time period. Details are given in the table 2 below.

To check the reliability and consistency of the model, Cronbach's Alpha statistics has been used. The results of reliability statistics are given in the table below.

The Cronbach's Alpha results showed that the value of perceived pressure, perceived opportunity, rationalisation, and fraud likelihood are about 51%, 79%., 80%, and 75%, respectively, while an overall summary of the Cronbach's Alpha revealed that the model value is 76%. These statistics have confirmed that our model is reliable and can be used for analysis and forecasting.

Correlation analysis has been done to measure the strength of the association of each variable with other variables. This analysis also gives the idea of its association, whether a positive or negative correlation is displayed in the following table.

The degree of association between each two variables is presented in Table 4. The above results confirmed that the elements of the fraud triangle theory have a significant degree of responsiveness to fraud likelihood. Based on the results, perceived pressure, perceived opportunity and rationalization have a

Table 1.
Demographic Statistics

Gender					
Male	382 (59.5%)				
Female	18 (4.5%)				
Age in Years					
Less than 30	Between 31-40	Between 41-50		Greater than 50	
60 (15%)	153 (38.25%)	137 (34.25%)		50 (12.50%)	
Qualification					
Matric	Intermediate	B .com	M .com	C A/ACCA	Others
3 (0.75%)	35 (8.75%)	157 (39.25%)	112 (28%)	39 (9.75%)	54 (13.5%)
Experience in Years					
Less than 10	Between 11-20	Between 21-30	Greater than 30		
159 (39.75%)	159 (39.75%)	68 (17%)	14 (3.5%)		
Working Department					
Accounting	Internal audit	Administration			
220 (55%)	41 (10.25%)	139 (34.75%)			

Table 2.
Reliability Analysis

Variables	Cronbach's Alpha	Number of Items
Perceived Pressure (PP)	0.508	6
Perceived Opportunity (PO)	0.787	6
Rationalisation (R)	0.798	6
Fraud Likelihood (FL)	0.748	6
Over All	0.763	24

Table 3.
CorrelationAnalysis

Pearson Correlation Coefficients	Perceived Pressure	Perceived Opportunity	Rationalisa-tion	Fraud Likelihood
Perceived Pressure	1	.298**	.379**	.149**
Perceived Opportunity	.298**	1	.338**	.441**
Rationalisation	.379**	.338**	1	.333**
Fraud Likelihood	.149**	.441**	.333**	1

Table 4.
Impact of elements of FTT on fraud Likelihood

	**. Correlation is significant at the 0.01 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5.

**. Correlation is significant at the 0.01 level (2-tailed).

15%, 44% and 33% correlation with fraud likelihood, respectively. Similarly, perceived pressure and perceived opportunity have 38% and 34% degrees of responsiveness with rationalisation, respectively, while perceived pressure and perceived opportunity have a 30 % correlation between them. All the relationships are positive and statistically significant at a 1% level of significance.

To find the impact of elements of fraud triangle theory on fraud likelihood the regression analysis was performed. The results of the regression analysis are shown in Table 5. The values of R-square and adjusted R-square are 0.234 and 0.228, respectively, representing that the variation in fraud likelihood is about 23 per cent, as explained by the elements of FTT. Similarly, the overall significance of the model was confirmed by the F-statistics (40.383) at a 1 per cent level of significance. The results in Table 5 revealed that perceived opportunity and rational behaviour of the employees have a significant impact on committing fraud. The constant value in the model summary represents that there are factors other than elements of FTT that have a significant influence on the occurrence of fraud.

Table 6.
Impact of elements of FTT on fraudLikelihood

Elements of FTT	Coefficients	Std. Error
(Constant)	24.493***	1.945
Perceived Pressure	-.034	.033
Perceived Opportunity	.349***	.044
Rationalisation	.169***	.037

One of the prime objectives of this research is to perform the confirmatory factor analysis (CFA) with the gathered information from respondents. After confirming the prerequisites of CFA, the researcher has performed the

Table 7.

a. Dependent Variable: Fraud Likelihood

important relationships between the items of each variable. Figure 6 and 7 below explains the degree of association between fraud incidents as endogenous variables and elements of FTT as exogenous latent variables. It is confirmed from the results that there exists a significant relationship between all the items of the variables. All the variables, namely perceived opportunity (PO), rationalisation (R) and fraud likelihood (FL), have six constructs, while perceived pressure (PP) has five constructs because the PP3 factor loading value was found to be less than 50% (0.27). Moreover, the data fitness index values NFI, RFI, IFI, TLI, and CFI indicated a good fit for the model. The standardised beta estimates for the effect of PP, PO and R on FL are 12.9, 1.12 and 0.46, respectively. The values of variances for PP, PO and R are 0.11, 0.96 and 0.30 each.

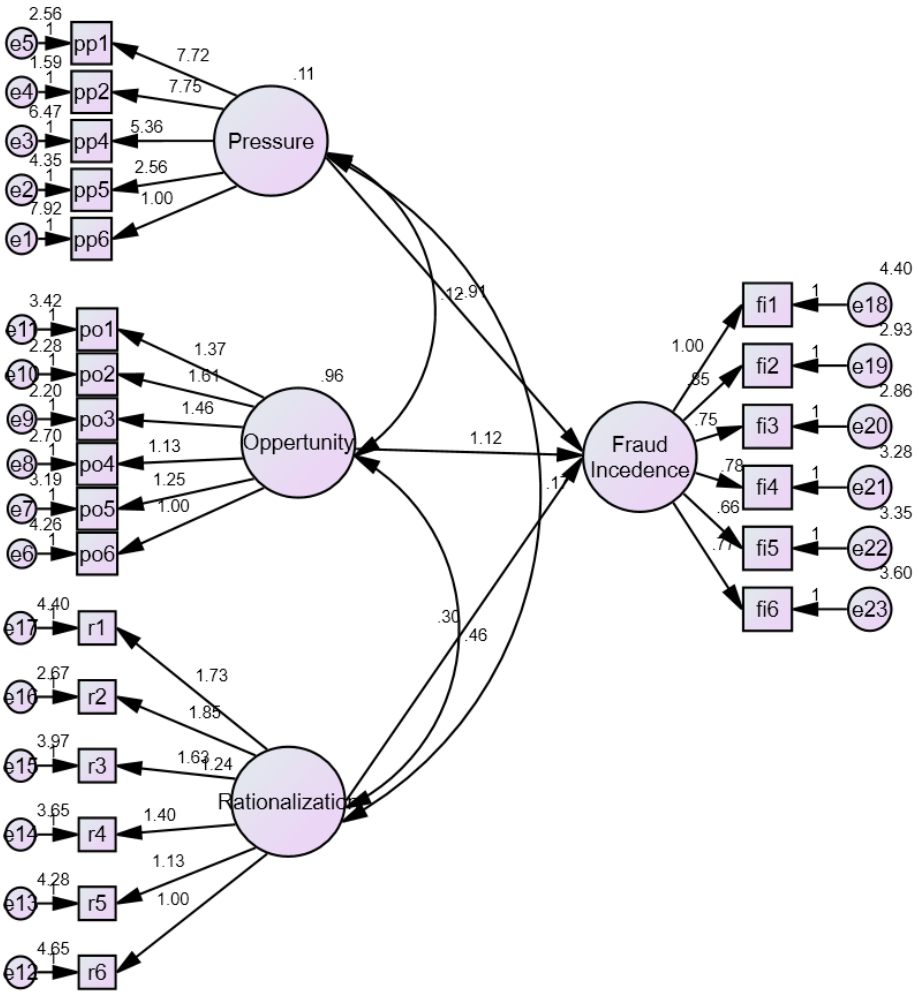
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Figure 6:

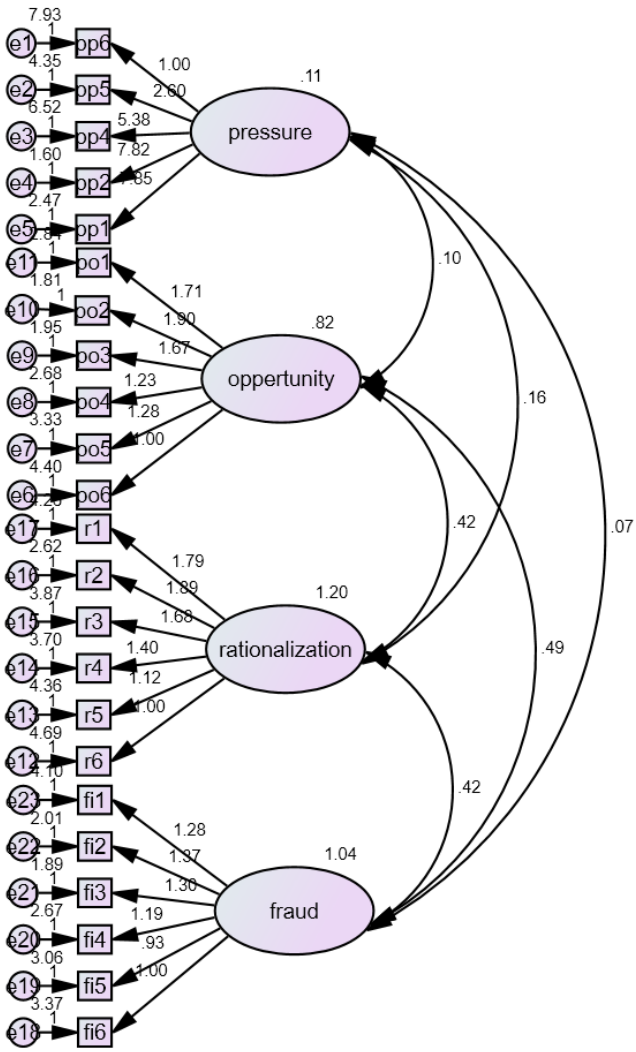

Figure 7: *Confirmatory Factor Analyses (Path Analysis– Correlation and Regression)*

The findings of the current research are based on previous studies, i.e., Abdullahi & Mansor, 2018; Mansor, 2015; Rahman & Jie, 2024). It is evident from the results, as presented in correlation analysis and regression analysis that perceived pressure, perceived opportunity, and rationalisation have significant associations with the occurrence of fraud. The findings of the study suggested that to control fraudulent practices, the policymaker must consider the individual's financial and non-financial needs, financial incentives and privileges. In the absence of pressure and opportunities, the employee can perform better without focusing on unfair means of making money.

CONCLUSION

Every year, widespread financial criminal activities such as money laundering, white-collar crimes, funds embezzlement, investment scams, and strategic manipulation have been reported. The institutions try to find solutions for such criminal practices, but detecting and preventing fraudulent practices are not easy jobs. Combating against fraudulent practices is more sensitive because people believe in and trust public institutions, government officials and public resources. Previous literature has witnessed that Pakistan is also on the list of countries that face massive economic crises due to the increasing level of fraudulent financial activities. Thus, a system and institutions need to know why such activities have been initiated and practised. Therefore, the primary purpose of this study is to find the relationship between fraud incidents and the fraud triangle theory. A well-designed survey was conducted for these objectives, and questionnaires were distributed to concerned government officers and officials. Structural equation model (SEM), correlation analysis and demographic analysis were used to analyse the data. The results revealed that there is a significant relationship between all elements of the fraud triangle theory and fraud incidents in Pakistan's public sector. The study recommends that the government should focus on the financial remunerations of the employees to improve their living standards, and this will definitely reduce the financial and economic pressure on the employees.

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