



## Fraudulent Financial Statements Detection in Indonesian Shariah Bank

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### **Author's contribution**

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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### **ABSTRACT**

This study aims to detect fraudulent financial statements using the S.C.O.R.E. model in Indonesian Sharia Commercial Banks. This research uses quantitative research methods—hypothesis testing using a logistic regression analysis model. The research sample is 11 Shariah commercial banks registered with the Indonesian Financial Services Authority. These research results are financial targets, financial stability, external pressures, changes in directors, ineffective monitoring, and external auditors' changes who cannot detect fraudulent financial statements. However, the number of CEO pictures engraved in the annual report can detect fraudulent financial statements. The results of this study again show inconsistencies with the results of various previous studies. The research results confirm that the most common driving factors in cheating are feelings of rights and a desire for power/ego.

*Keywords: Detection; fraudulent financial statements; the S.C.O.R.E. model; shariah bank.*

### **1. INTRODUCTION**

Of course, companies that publish financial statements want to do their best to describe the situation and conditions. Financial statements

are the output of the accounting process that provides financial information and company performance. The importance of financial information to related parties means that companies must provide accurate, relevant, and

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fraud-free financial information. The financial statements are a structured presentation of the financial position and financial performance of an entity. This report displays the history of entities quantified in monetary value [1].

However, many cases of fraud have become a severe problem in the company's business development. One of the frauds often done is fraudulent financial statements. Research results from the Association of Certified Fraud Examiners [2] show that although the number of financial reporting fraud cases is minimal, financial losses are the largest, reaching USD 975,000.

The development of sharia banks in Indonesia is relatively rapid. The National Islamic Finance Committee (KNKS) Indonesia said based on data from the Financial Services Authority (OJK) until 2019; there have 189 Shariah banks consisting of 14 Shariah Commercial Banks (SCB), 20 Shariah Business Units (SBU), and 164 Sharia Rural Banks (SBRs) in Indonesia [3]. Shariah banks operate based on the Quran and As-Sunnah.

However, there are also cases of fraud in Shariah banks in Indonesia. For example, in 2013, the Bank Syariah Mandiri Bogor branch was hit by a fraud case. This fraud case involved three independent sharia bank officials [4]. That shows that the elements of sharia law in bank operations cannot guarantee that the company is free from fraud.

The theory of factors for the occurrence of fraud has developed. They started from Cressey (1953) with the fraud triangle concept (pressure, opportunity, and rationalization). Wolfe and Hermanson, in 2004, continued the fraud triangle into a fraud diamond (pressure, opportunity, rationalization, and capability). Crowe in 2011 redeveloped the fraud pentagon (pressure, opportunity, rationalization, capability, and arrogance). Then Vousinas in 2019 introduced the S.C.O.R.E. model to explain the factors of fraud.

In Indonesia, there have been many studies on the detection of fraudulent financial statements. Several studies of financial report fraud, such as Sihombing and Rahardjo [5], Tessa and Harto [6], Ulfah et al. [7], Puspithaa and Yasa [8], Pratiwi and Nurbaiti [9], and Ferica et al. [10]. The results of these studies have shown inconsistent results. This research is a replication of previous research.

## 1.1 Review Theory

### 1.1.1 Agency Theory

They defined agency theory as a contract between the owner (subject) and the manager (agent). The contract adopts the form of service cooperation and entrusted agency by the principal, the right to make the correct and best decision [11].

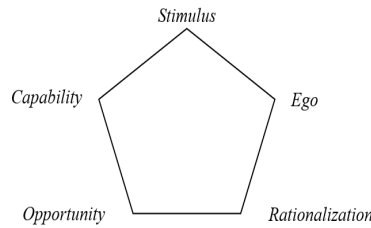
The principal and agent relationship is a working relationship. The principal is the party who employs the agent to perform tasks for the benefit of the principal. The agent is the party who carries out the principal's interests [12]. Principal hopes that the company's financial performance can improve in the form of a high return rate on the issued investment. Agents hope to obtain higher returns from the performance provided by the company.

The agent has the right to manage the company to understand the situation and all company information. The agent can hide specific purpose information unknown to the principal. The difference between principal and agent goals becomes a conflict of interest. Agency theory is increasingly essential in line with the growth of world capital markets. Agencies are increasingly required to be accountable financially, especially the Budget Realization Report, and get an Unqualified Opinion on Audited Financial Statements [13].

### 1.1.2 Fraudulent financial statements

IIA [14] explain "fraud any illegal act characterized by deceit, concealment, or violation of trust. These acts are not dependent upon the threat of violence or physical force. Frauds perpetrated by parties and organizations to obtain money, property, or services; to avoid payment or loss of services, or to secure personal or business advantage".

According to ACFE [15], the definition of fraudulent financial statements intentionally deceives the statement of an enterprise's financial status to deceive users of financial statements by deliberately misrepresenting or misreporting the amount of disclosure in the financial statements. The fraudulent financial statements can explain the financial statements' information does not represent the actual situation. Such information may cause users of financial statements to make wrong decisions and suffer significant losses.



**Fig. 1. S.C.O.R.E. Model**

**1.1.3 The vousinas S.C.O.R.E. model**

Vousinas [16] introduces pentagon S.C.O.R.E. models to improve detection, prevent fraud, and broaden understanding of fraudulent activity's main determinants. The elements in the S.C.O.R.E. models are Stimulus, Capability, Opportunity, Rationalization, and Ego. The S.C.O.R.E. model's elements are almost the same as The Crowe's Fraud Pentagon elements. The following is a picture of the S.C.O.R.E. model.

is 11 shariah commercial banks registered with Financial Services Authority Indonesia (OJK). Indonesia in the 2013-2017 period. The sampling technique was using the purposive sampling method.

The dependent variable of this study is fraudulent financial statements with restatements. The independent variables in this study use the S.C.O.R.E. model proxy as follows:

1. Stimulus: Financial targets, financial stability, and external pressures
2. Capability: Change of directors
3. Opportunity: Ineffective monitoring
4. Rationalization: *Change of independent auditor*
5. Ego: Frequent number of CEO's picture

**2. RESEARCH METHODS**

This research is quantitative. This type of data uses secondary data, namely annual financial reports and annual reports. The research sample

**Table 1. Variable measurement**

Variable	Proxy Variable	Measurement
Fraudulent financial statements	<b>Restatement (Y)</b>	If there are restatement of financial statements during the study period, Dummy variables are coded as 1, and if they do not occur, coded as 0.
<i>Stimulus</i>	Financial targets (X <sub>1</sub> )	$ROA = \frac{\text{Net Income}}{\text{Total asset}}$
	Financial stability (X <sub>2</sub> )	$ACHANGE = \frac{\text{Total asset}_{(t)} - \text{Total asset}_{(t-1)}}{\text{Total asset}_{(t-1)}}$
	External pressure (X <sub>3</sub> )	$Leverage = \frac{\text{Total liability}}{\text{Total asset}}$
<i>Capability</i>	Change of directors (X <sub>4</sub> )	Dummy variable, if there is a change in the board of directors during the study period is coded 1, and if there is no code 0
<i>Opportunity</i>	Ineffective monitoring (X <sub>5</sub> )	$IND = \frac{\text{The number of independent commissioners}}{\text{The total number of commissioners}}$
<i>Rationalization</i>	Change of Independent Auditor (X <sub>6</sub> )	Dummy variable, if the public accounting firm has changed during the study period, set it to code 1, if not set it to code 0
<i>Ego</i>	Frequent number of CEO's picture (X <sub>7</sub> )	Total number of CEO picture displayed in the annual report

Hypothesis testing uses logistic regression analysis. Logistic regression equation as follows:  
$$FFS = \beta_0 + \beta_1ROA + \beta_2ACHANGE + \beta_3LEV + \beta_4DCHANGE + \beta_5IDN + \beta_6\Delta CPA + \beta_7CEOPIC + \varepsilon$$

Description:

FFS = Fraudulent financial statements

$\beta_0$  = Constants

$\beta_1, 2, 3, 4, \dots$  = Variable coefficients

ROA = Return on Asset

ACHANGE = Changing ratio of total assets ratio from 2013- 2017

LEV = Ratio of total liability per total of assets

DCHANGE = Changing of directors

BDOUT = Ratio of independent commissioners board

$\Delta CPA$  = Changing of Independent Auditor

CEOPIC = The Number of CEO 'picture' in annual report

$\varepsilon$  = Error

### 3. RESULTS AND DISCUSSION

The research data is 11 Shariah commercial banks registered with the Indonesian Financial Services Authority in 2013-2017, which have met the purposive sampling method's criteria. Thus the research data processed during the five years of the study period were as many as 55.

#### 3.1 Descriptive Statistics Results

Descriptive statistics in this study divided into two, namely for non-dummy variables and dummy variables. Descriptive statistical analysis of non-dummy variables aims to determine the minimum, maximum, average, and standard deviation values. The dummy variable determines the frequency, percentage, and standard deviation.

The non-dummy variables Table 2. As measured by ROA, financial targets show the minimum ROA of -0.16886, the maximum ROA of 0.07519, the average ROA of -0.0023762, and the standard deviation of 0.03264254. Financial stability measured by ACHANGE shows a minimum of -0.28826, a maximum of 0.89327, an average of 0.1494382, and a standard deviation of 0.19245201.

LEVERAGE's external pressure shows the minimum of 0.05754, the maximum of 0.31772, an average of 0.1632704, and a standard deviation of 0.06226223. Monitoring ineffectiveness measured by IDN shows the minimum of 0, the maximum of 1, an average of

0.6151525, and a standard deviation of 0.20814918. CEO pictures measured by the total number of CEO pictures shown in the annual report is 2, the maximum of 11, the average of 4.16, and the standard deviation of 1.686.

The results of statistical tests for the dummy variables in Table 3 are as follows:

1. Change of directors measured by the dummy variable DCHANGE shows 32 samples with 58.2% of the total sample who changed directors in 2013-2017 deviation shows the number 0.498.
2. Change of Independent auditor as measured by the dummy variable ( $\Delta CPA$ ) shows that there are 16 samples with a percentage of 29.1% of the total sample who made independent auditor changes in 2013-2017, and the standard deviation shows the number 0.458.
3. The dependent variable for fraudulent financial statements as proxied by restatement shows seven samples with 12.7% of the total sample that performed restatements in 2013-2017 and a standard deviation of 0.336.

#### 3.2 Logistic Regression Analysis Results

##### 3.2.1 Godness of fit test

Table 4 shows that the chi-square value is 1.510, and the significance is 0.982. The significance level is more significant than 0.05 so that the model can predict its observations (model fitting). It said the model is acceptable because it fits the observed data.

##### 3.2.2 Overall model fit test

Table 5 shows that the value of -2LogL in block number 0 is 41.929. Table 6 shows the value of -2LogL in block number 1 of 27.292. The -2LogL value is reduced from block number 0 to block number 1, which is 14.637. Its means that it is feasible to use logistic regression models as a whole.

##### 3.2.3 Test of nagelkerke R square

The Nagelkerke R-squared value is 0.438. its means that the independent variable's ability in explaining the dependent variable is 43.8%, while the remaining 56.2% by variables other than this study.

**3.2.4 Classification matrix**

The prediction value of the indication of fraudulent financial statements with category 1 is three financial statements. The observation line predicts that one financial statement does not indicate fraudulent financial statements, and two financial statements (28.6%) indicate fraudulent financial statements.

The predictive value of fraudulent financial statements without category 0 indication is 52 financial statements. The monitoring line estimates that 47 financial reports (97.9%) cannot indicate fraudulent financial statements, while five financial reports indicate fraudulent financial statements. Overall, the prediction accuracy of this model is 89.1%.

**3.2.5 Logistic regression model**

Based on Table 9, the regression model formed is as follows.

The beta coefficient of the financial target measured by ROA is 10,560, and the significance level is 0.683. It means that the stimulus factor with financial target proxies has a positive and insignificant effect on fraudulent

financial statements, so that H1 is rejected. The results showed that financial targets were not able to detect fraudulent financial statements. These results support research conducted by Sihombing and Rahardjo [5], Tessa and Harto [6], Ulfah et al. [7], Pratiwi and Nurbaiti [9], Puspithaa and Yasa [8], and Ferica et al. [10].

An increase in ROA does not necessarily indicate an indication of fraudulent financial statements. The increase in ROA can indicate that shariah banks want to improve their quality to compete with other shariah banks. Financial targets are not pressure but motivation to improve performance.

Financial stability measured by ACHANGE has a beta coefficient of -3.059 with a significance level of 0.348. It means that the stimulus factor with financial stability proxies has a negative and insignificant effect on fraudulent financial statements so that H2 is rejected. The results show that financial stability cannot detect fraudulent financial statements. This result is consistent with the study of Ulfah et al. [7], Pratiwi and Nurbaiti [9], Puspithaa and Yasa [8], and Ferica Etc. [10].

**Table 2. Descriptive Statistics for Non-Dummy Variables**

	N	Minimum	Maximum	Average	Standard Deviation
ROA	55	-0,16886	0,07519	-0,0023762	0,03264254
ACHANGE	55	-0,28826	0,89327	0,1494382	0,19245201
LEVERAGE	55	0,05754	0,31772	0,1632704	0,06226223
IDN	55	0	1	0,6151525	0,20814918
CEOPIC	55	2	11	4,16	1,686
Valid N (listwise)	55				

**Table 3. Descriptive Statistics for Dummy Variables**

	N	Frequency	Percentage	Standard Deviation
DCHANGE	55	32	58,2%	0,498
ΔCPA	55	16	29,1%	0,458
Restatement	55	7	12,7%	0,336

**Table 4. Godness of Fit Test**

**Hosmer and Lemeshow's Test**

Step	Chi-Square	df	Sig.
1	1,510	7	0,982

**Table 5. Overall Model Fit Test)  
(Block 0: Beginning Block)  
Iteration History<sup>a,b,c,d</sup>**

Iteration		-2 Log Likelihood	Coefficients Constant
Step 0	1	43,211	-1,491
	2	41,949	-1,868
	3	41,929	-1,924
	4	41,929	-1,925
	5	41,929	-1,925

**Table 6. Overall Model Fit Test  
(Block 1: Method = Enter)  
Iteration History<sup>a,b,c,d</sup>**

Iteration		-2Log likelihood	Coefficients							
			Constant	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>
Step 1	1	34,873	-2,183	3,552	-1,107	-4,268	0,153	0,247	-0,801	0,373
	2	29,375	-2,853	6,723	-1,932	-9,304	0,393	0,394	-1,784	0,614
	3	27,713	-3,094	9,163	-2,568	-14,489	0,684	0,253	-2,895	0,828
	4	27,328	-3,335	10,341	-2,927	-17,576	0,911	-0,015	-3,785	0,997
	5	27,293	-3,498	10,559	-3,046	-18,483	1,006	-0,140	-4,169	1,070
	6	27,292	-3,522	10,560	-3,059	-18,569	1,018	-0,154	-4,215	1,079
	7	27,292	-3,522	10,560	-3,059	-18,570	1,018	-0,154	-4,215	1,079

$$FFS = -3,522 + 10,560 ROA - 3,059 ACHANGE - 18,570 LEVERAGE + 1,018 DCHANGE - 0,154 IDN - 4,215 \Delta CPA + 1,079 CEOPIC + \epsilon$$

The unstable financial condition of the bank does not make management commit fraudulent financial statements. Management understands that fraudulent financial reporting will worsen the bank's financial condition in the future. The Bank continues to carry out GCG and human resource development principles to maintain relationships for shareholders, creditors, and bank customers.

The beta coefficient of external pressure measured by leverage is -18.570, and the significance level is 0.194. It means that the stimulus factor with external pressure proxies has a negative effect on fraudulent financial statements, and H3 is rejected. The results

showed that external pressure was unable to detect fraudulent financial statements. These results support the research of Ulfah et al. [7] and Ferica et al. [10].

Low leverage level is no longer a significant consideration for creditors. Other considerations can be in the form of a good relationship and the level of trust between the company and creditors. Also, creditors' consideration can be in the form of company debt originating from third-party funds with lower interest expenses than other debts. The increase in bank assets understood that the bank will still be able to repay its debts.

**Table 7. Nagelkerke r square model summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	27,292 <sup>a</sup>	0,234	0,438

**Table 8. Test of classification matrix**

Observed		Predicated			
		FFS	Percentage Correct		
			0	1	
Step 1	FFS	0	47	1	97,9
		1	5	2	28,6
Overall Percentage					89,1

**Table 9. Test of Logistic Regression Model  
Variables in the Equation**

		<b>B</b>	<b>S.E.</b>	<b>Wald</b>	<b>df</b>	<b>Sig.</b>	<b>Exp (B)</b>
Step 1 <sup>a</sup>	ROA	10,560	25,843	0,167	1	0,683	38573,901
	ACHANGE	-3,059	3,261	0,880	1	0,348	0,047
	LEVERAGE	-18,570	14,293	1,688	1	0,194	0,000
	DCHANGE	1,018	1,251	0,661	1	0,416	2,767
	IDN	-0,154	2,442	0,004	1	0,950	0,857
	ΔCPA	-4,215	2,603	2,621	1	0,105	0,015
	CEOPIC	1,079	0,504	4,585	1	0,032	2,942
	Constant	-3,522	3,373	1,090	1	0,296	0,030

The change of director (DCHANGE) has a beta coefficient of 1.018 with a significance level of 0.416. It means that the capability factor with change of directors proxies has a positive but not significant effect on fraudulent financial statements for which H4 rejects. The results showed that the change of directors failed to detect fraudulent financial statements. This result is in line with the research by Sihombing and Rahardjo [5], Ulfah et al. [7], Pratiwi and Nurbaiti [9] and Ferica et al. [10].

Changes in the company's board of directors are considered commonplace. Change as meeting the prerequisites for good corporate governance. The board of commissioners supervises the quality of the company directors' performance and if the board of directors' performance is not optimal. A new, more capable director could replace this.

Monitoring ineffectiveness (IDN) has a beta coefficient of -0.154 with a significance level of 0.950. It means that the opportunity factor with the ineffectiveness of monitoring proxies has a negative and insignificant effect on fraudulent financial statements so that H5 is rejected. The results showed that the ineffectiveness of monitoring was unable to detect fraudulent financial statements. These results support Sihombing and Rahardjo [5] research and Pratiwi and Nurbaiti [9].

The existence of an independent board of commissioners is one of the keys to improving company monitoring. The minimum number of independent commissioners based on the regulation of BAPEPAM-LK No. IX.1.5 and IDX No I-5 KEP-305 / BEJ/ 07/2004; 30% of the board of commissioners' total members. The average number of independent commissioners in sharia commercial banks in Table 3 of the

descriptive statistics is up to 61.5%. It means that the monitoring in the Shariah Commercial Banks has been optimal and effective.

The change of external auditors (ΔCPA) has a beta coefficient of -4.215 with a significance level of 0.105. Its means that rationalization with external auditors' change proxies has a negative and insignificant effect on fraudulent financial statements so that H6 is rejected. This research shows that the change in external auditors is not able to detect fraudulent financial statements. These results support the research by Sihombing and Rahardjo [5], Ulfah et al. [7], Pratiwi and Nurbaiti [9], Puspithaa and Yasa [8], and Ferica et al. [10].

Auditor turnover can contribute to the company's dissatisfaction with the previous independent auditor's performance. The change of auditors is also due to the company's compliance with OJK No:13/POJK.03/2017 regarding public accountants and public accountants companies in financial services activities, specifically, the limitation of the use of audit services on annual historical financial information from the same public accountant at most. For the audit period of 3 (three) consecutive accounting years.

The frequent number of CEO photographs shown in the annual report (CEOPIC) has a beta coefficient of 1.079 and a significance level of 0.032. The Ego factor with the frequent number of CEO pictures shown in the annual report positively and significantly affects fraudulent financial statements to accept H7. The results showed that the number of CEO pictures displayed in the annual report could detect fraudulent financial statements. These results support Tessa and Harto [6] research and Puspithaa and Yasa [8].

The frequent number of CEO photos shown in the annual report may indicate the CEO's high level of ego and arrogance. Excessive ego and arrogance can make the CEO feel like there is no internal control over her status and position. According to Geis (2011) in Vousinas [16], the most common driving factors for cheating are feelings of rights and desire for power / ego. The CEO is likely to do his best to maintain his current status and position.

#### 4. CONCLUSION

The research results and discussion concluded that financial targets, financial stability, external pressure, changes in directors, ineffective monitoring, and external auditors' replacement could not detect fraudulent financial statements. However, the number of CEO pictures emblazoned in the annual report can detect fraudulent financial statements. For further research, adding proxy variables such as external auditors' quality, institutional share ownership, and audit opinion broaden the research variables. It is also possible to develop more public sector research, such as the government or social sector.

The research's practical contribution is that investors consider the company's decision-making process; the CEO's power is too dominant. Regulators associated with companies that tighten the role of the CEO so as not to be absolute. Academically, the research contribution shows that the ego factor is a factor in the occurrence of fraud. The ego is the primary motive for fraud. The large number of frauds by white-collar criminals also shows a connection with the ego [16].

#### DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is no conflict of interest between the authors and producers of the products because we do not intend to use them as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather, it was funded by the personal efforts of the authors.

#### COMPETING INTERESTS

Author has declared that no competing interests exist.

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