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Pentagon fraud model and financial statement fraud: The moderating role of Islamic corporate governance

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A B S T R A C T

The study aims to investigate the impact of Pentagon Fraud Model in five key factors, namely Pressure, Opportunity, Rationalization, Capability, and Action, on the risk of Financial Statement Fraud (FSF). Additionally, it explores the moderating role of Islamic Corporate Governance (ICG) in the relationship between these factors and FSF. The research employed a quantitative approach, utilizing survey data from a sample of 270 respondents. The findings support the hypotheses that all five factors significantly influence FSF, with Pressure exerting the highest impact. Furthermore, ICG is found to moderate the relationships between these factors and FSF, underscoring its role in reducing financial fraud risk. Practically, this study offers essential guidance for organizations in managing FSF risks more effectively. Integrating ethical and governance principles, as moderated by ICG, can help strengthen internal controls, ethics training, and a culture of integrity. Policymakers should consider these findings for enhancing regulatory frameworks, and educational institutions can integrate these results into their curriculum. The study's contribution lies in shedding light on the significance of ICG as a risk-mitigating factor in the context of FSF. The findings provide valuable insights for academics, practitioners, and policymakers. They enhance the understanding of FSF and its mitigating measures and offer a foundation for further research in the field.

1. Introduction

Financial Statement Fraud has become an increasingly profound issue in the world of business and finance (Koolivand et al., 2023; Shahana et al., 2023). Events such as major accounting scandals, as seen at the beginning of the 21st century with companies like Enron and WorldCom, have shaken public trust in the reliability and integrity of a company's financial reports (B. Soltani, 2014). As a result, efforts to understand, detect, and prevent financial statement fraud have become crucial (Hajek & Henriques, 2017; West & Bhattacharya, 2016). One evolving approach to comprehending financial statement fraud is through the use of analytical models, one of which is the Pentagon Fraud Model (Achmad et al., 2022; M. Soltani et al., 2023). This model identifies five key factors that can trigger or facilitate fraud: pressure, opportunity, rationalization, capability, and action (Harrison et al., 2018; Huang et al., 2017; Rustiarini et al., 2019). The model aids in understanding why fraud occurs and how it can be more effectively prevented or detected.

Meanwhile, in the context of companies guided by Islamic principles, Islamic Corporate Governance is gaining increasing importance (Abu Talib et al., 2020). Ethical principles, justice, and transparency form the foundation for managing companies in accordance with Islamic principles (Iqbal & Mirakhor, 2017). Islamic Corporate Governance involves the application of Sharia principles in various aspects of corporate management, including financial decision-making (Mansour & Bhatti, 2018). Although there is separate research examining the Pentagon Fraud Model and Islamic Corporate Governance in the context

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of financial statement fraud, there is still a lack of research specifically exploring the interaction between the two. This research aims to fill this knowledge gap and provide deeper insights into how Islamic Corporate Governance can act as a moderating variable in the relationship between the Pentagon Fraud Model and Financial Statement Fraud.

The significance of this research encompasses a vital contribution to the comprehension and mitigation of Financial Statement Fraud, a serious issue in the business and financial world. By delving deeper into the factors that trigger financial statement fraud through the utilization of the Pentagon Fraud Model, this research will provide valuable insights that can assist companies and stakeholders in detecting and preventing fraud. Furthermore, the research holds practical implications in the development of corporate governance practices that are more ethical and in alignment with Islamic principles, which will create a fair and sustainable business environment. Notably, the novelty of this research lies in its exploration of Islamic Corporate Governance as a moderating variable. This innovative approach adds a unique dimension to the study of Financial Statement Fraud, shedding light on the role of Islamic principles in reducing fraudulent practices. By integrating Islamic Corporate Governance in this manner, the research breaks new ground in the field and offers fresh perspectives on the ethical and responsible management of financial affairs in both conventional and Islamic corporate settings.

The aim of this research is to investigate the influence of the Pentagon Fraud Model on Financial Statement Fraud, with Islamic Corporate Governance as a moderating variable. The research aims to understand the factors that trigger financial statement fraud in the context of companies. Additionally, the research seeks to delve into the use of the Pentagon Fraud Model as a tool that can aid in detecting and preventing Financial Statement Fraud. It also aims to explore the role of Islamic Corporate Governance in reducing the risk of financial statement fraud and providing practical guidance for companies and stakeholders. Thus, this research is relevant to the development of more ethical corporate governance practices and in creating a more sustainable business environment.

2. Literature and Hypotesis Development

2.1 The Pentagon Fraud Model and Financial Statement Fraud

Saluja et al. (2022) state that the Pentagon Fraud Model is a conceptual framework used to understand and analyze the factors that contribute to financial statement fraud. It identifies five key elements, often represented in a pentagon shape, that can facilitate or trigger financial statement fraud. These elements are: 1) Pressure represents the financial or psychological stress that may drive individuals or organizations to commit fraud . This could include a need to meet financial targets, personal financial difficulties, or other motivations to engage in fraudulent activities (Hashim et al., 2020). 2) Opportunity pertains to the conditions or circumstances that provide the chance for fraudulent actions to occur (Roemer & Trannoy, 2015). Weak internal controls, inadequate oversight, or vulnerabilities in a company's systems create opportunities for financial statement fraud (Zakaria et al., 2016). 3) Rationalization involves the cognitive process through which individuals justify their fraudulent behavior (Offei et al., 2022). They may convince themselves that their actions are necessary, acceptable, or justifiable in some way. 4) Capability refers to the skills, knowledge, or resources needed to carry out the fraudulent act (Wahyudi et al., 2022). This can include technical expertise, access to confidential information, or control over financial processes. 5) Action is the execution of the fraudulent act itself. It involves taking specific steps to manipulate financial information, misrepresent facts, or engage in deceptive practices (Lokanan, 2018).

According to Baskaran et al. (2020), Financial Statement Fraud is the result of deliberate actions to manipulate or falsify financial information in a company's financial statements, with the intent to deceive stakeholders. This deception often involves inflating assets, understating liabilities, exaggerating revenues, or concealing financial losses (Aviantara, 2023). The relationship between the Pentagon Fraud Model and Financial Statement Fraud lies in how the model helps to identify and understand the key factors that lead to fraudulent financial reporting (Lotfi et al., 2022; Sarikhani & Ebrahimi, 2022; Vousinas, 2019). By applying the Pentagon Fraud Model, organizations and auditors can assess the presence and interplay of these elements within a company's operations and culture (Ratmono & Frendy, 2022). This, in turn, enables them to detect, prevent, and address the root causes of Financial Statement Fraud, ultimately promoting transparency, accountability, and the integrity of financial reporting within an organization (Jeppesen, 2019; Roszkowska, 2021; Shonhadji & Maulidi, 2021).

H_1: *Pressure impacts on Financial Statement Fraud.*
H_2: *Opportunity impacts on Financial Statement Fraud.*
H_3: *Rationalization impacts on Financial Statement Fraud.*
H_4: *Capability impacts on Financial Statement Fraud.*
H_5: *Action impacts on Financial Statement Fraud.*

2.2 Islamic Corporate Governance as moderator

According to Abu-Tapanjeh (2009), Islamic Corporate Governance is a framework and set of principles that guide the management and operation of companies in accordance with Islamic ethical and legal standards. It encompasses a range of principles derived from Sharia (Islamic law) that promote ethical business practices, transparency, accountability, and fairness in corporate affairs (Jan et al., 2021). These principles often include adhering to the prohibition of riba (usury or interest), avoiding excessive uncertainty (gharar) and gambling (maysir), and ensuring that business activities are consistent with

Islamic values and social responsibility (Alam et al., 2017). Islamic Corporate Governance aims to create an ethical and just corporate environment in which financial and business practices align with Islamic principles (Choudhury & Alam, 2013).

When used as a moderator, Islamic Corporate Governance intervenes in the relationship between two other variables, in this case, the Pentagon Fraud Model and Financial Statement Fraud (Sari et al., 2022). As a moderator, Islamic Corporate Governance has the potential to influence the strength or nature of this relationship. It may enhance or diminish the impact of the Pentagon Fraud Model on Financial Statement Fraud, based on its alignment with Islamic principles (Ametepe et al., 2022; Ramachandran et al., 2022; Tan et al., 2023). For example, it can strengthen ethical oversight, encourage ethical decision-making, and promote transparency, which in turn can deter fraudulent activities or mitigate their effects (Kassem, 2022; Mersni & Ben Othman, 2016; Salin et al., 2019). By acting as a moderator, Islamic Corporate Governance plays a vital role in shaping and regulating corporate behavior and the occurrence of financial misconduct within the boundaries of Islamic ethical and legal standards (Abdullah & Said, 2018; Islam et al., 2022; Swandaru & Muneeza, 2022).

H_6: *Islamic Corporate Governance moderates the relationship between Pressure and Financial Statement Fraud.*
H_7: *Islamic Corporate Governance moderates the relationship between Opportunity and Financial Statement Fraud.*
H_8: *Islamic Corporate Governance moderates the relationship between Rationalization and Financial Statement Fraud.*
H_9: *Islamic Corporate Governance moderates the relationship between Capability and Financial Statement Fraud.*
H_{10}: *Islamic Corporate Governance moderates the relationship between Action and Financial Statement Fraud.*

Based on the previous studies and the development of hypotheses, we will further advance the research by presenting a research framework model, as illustrated in Fig. 1.

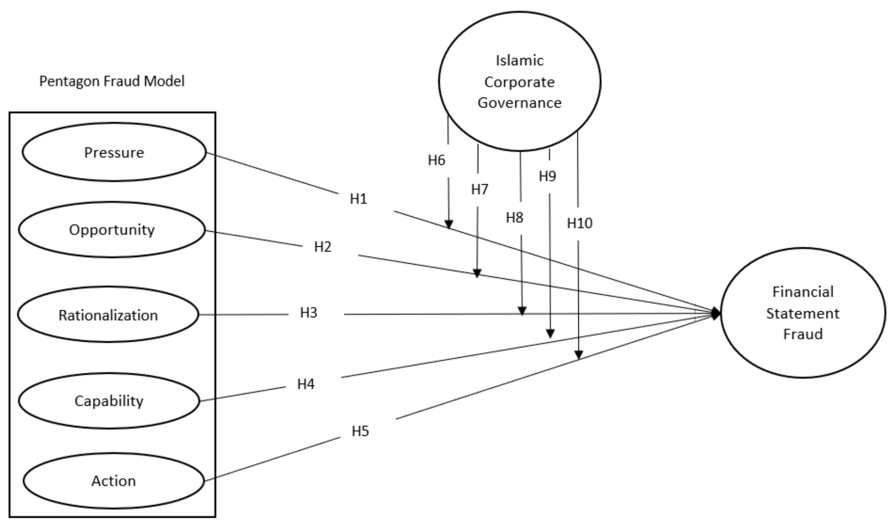

Fig. 1. Research model

3. Methodology

3.1 Research Design, Population and Sample

This research will employ a quantitative approach, allowing for systematic measurement and in-depth statistical analysis of the impact of the Pentagon Fraud Model on Financial Statement Fraud, with Islamic Corporate Governance as a moderating variable. The study's population comprises companies in a specific sector relevant to the research context. A total of 270 samples will be purposely selected from this population. The sample size has been accurately determined to ensure the representativeness and validity of research results. One of the criteria for sample selection is that respondents must work as Internal Auditors (or equivalent positions) in the selected companies.

Variable Measurement

Pentagon Fraud Model: Variables within the Pentagon Fraud Model, namely pressure, opportunity, rationalization, capability, and action, will be measured using instruments that have been tested for validity and reliability (Hashim et al., 2020; Lokanan, 2018; Offei et al., 2022; Roemer & Trannoy, 2015; Wahyudi et al., 2022; Zakaria et al., 2016).
Financial Statement Fraud: This variable will be measured through the analysis of financial statements, including potential indicators of Financial Statement Fraud (Aviantara, 2023; Baskaran et al., 2020).

Islamic Corporate Governance: The measurement of the Islamic Corporate Governance variable will be based on a framework of principles relevant to corporate governance in accordance with Islamic principles. This may include aspects such as transparency, fairness, and compliance with Sharia principles (Ametepe et al., 2022; Ramachandran et al., 2022; Tan et al., 2023).

Table 1 offers a thorough and expansive representation of Variable Measurement, encompassing a wide range of factors and constructs examined in the study.

Table 1
Measurement

Variable	Items and Indicators	Source
Pentagon Fraud Diamond		
Pressure	1. PRESS1=Respondent faces significant financial pressure due to personal debt. 2. PRESS2=Pressure to meet high performance targets set by management or shareholders. 3. PRESS3=Threat of termination or job loss triggering economic pressure. 4. PRES4=Poor personal financial conditions such as health issues or family problems. 5. PRESS5=Dependence on a lavish lifestyle that requires additional funds. 6. PRESS6=Urgent need to repay debts or other financial commitments. 7. PRESS7=Ownership of company shares with significantly decreased value.	(Hashim et al., 2020)
Opportunity	1.OPP1=Having unrestricted access to the company's accounting system without adequate supervision. 2. OPP2=Lack of adequate separation of duties allowing one individual to control many aspects of financial transactions. 3. OPP3=Lack of effective transaction validation or supervision procedures. 4. OPP4=Gaps in policies and procedures that facilitate financial data manipulation. 5. OPP5=Situations where financial transactions are not regularly or thoroughly audited. 6. OPP6=Vulnerabilities in information technology security systems that enable unauthorized access. 7. OPP7=Lack of transparent reporting to authorities.	(Roemer & Trannoy, 2015; Zakaria et al., 2016)
Rationalization	1. RAT1=Belief that the action is necessary to protect one's job or the company's interests. 2. RAT2=The belief that the action will help the company overcome financial difficulties. 3. RAT3=Conviction that the action will be compensated for or offset personal losses. 4. RAT4=Belief that the company has treated the individual unfairly. 5. RAT5=The belief that the action does not actually harm anyone. 6. RAT6=Rationalizing fraud actions on moral or ethical grounds. 7. RAT7=Belief that the company is not treating them fairly in terms of compensation or promotion.	(Offei et al., 2022)
Capability	1. CAP1=Having sufficient technical knowledge to manipulate the accounting system or technology. 2. CAP2=Access to the technological resources needed to manipulate data. 3. CAP3=Expertise in concealing fraudulent actions through data or document engineering. 4. CAP4=The ability to avoid detection by internal oversight or audits. 5. CAP5=Knowledge of company policies and procedures that allow gaps for fraud. 6. CAP6=The ability to exploit opportunities in specific situations without immediate detection. 7. CAP7=Knowledge of the company's reporting and audit systems that can be exploited.	(Wahyudi et al., 2022)
Action	1. ACT1=Taking concrete actions to divert company funds to personal accounts. 2. ACT2=Manipulating financial records by altering actual figures. 3. ACT3=Creating fake documents to support fraudulent actions. 4. ACT4=Deleting or destroying evidence that could reveal fraud. 5. ACT5=Committing fraud actions by intentionally hiding or falsifying signatures. 6. ACT6=Covering up the tracks of fraudulent actions through data manipulation. 7. ACT7=Committing fraudulent actions involving cooperation with external parties or business associates.	(Lokanan, 2018)
Financial Statement Fraud	1.FSF1=Intentional misrepresentation of financial data to deceive stakeholders and present a false financial picture. 2. FSF2=Inflating reported revenues to make the company appear more profitable than it actually is. 3. FSF3=Understating expenses to overstate net income and improve financial performance. 4. FSF4=Manipulating asset valuations to show a stronger balance sheet than reality. 5. FSF5=Providing false or misleading information in financial statements and reports. 6. FSF6=Falsifying financial records, such as sales invoices, inventory levels, or accounts receivable. 7. FSF7=Engaging in irregular or fraudulent transactions to artificially inflate profits. 8. FSF8=Creating fictitious revenue or income streams to improve the appearance of financial health.	(Aviantara, 2023; Baskaran et al., 2020)
Islamic Corporate Governance	1. ICG1=The company has a Shariah Supervisory Board responsible for ensuring compliance with Shariah principles. 2. ICG2=The company's financial and operational reports are highly transparent, with information provided clearly. 3. ICG3=A business code of ethics aligned with Shariah principles has been implemented and is followed by all members of the organization. 4. ICG4=The company undergoes routine Shariah compliance audits by the Shariah Supervisory Board or Shariah authorities. 5. ICG5=The company adopts a fair profit-sharing system and risk-sharing in accordance with Shariah principles. 6. ICG6=The company actively engages in social responsibility programs, including contributions to the community and the environment. 7. ICG7=Strong protection mechanisms are in place for shareholders and investors to prevent potential fraud or misuse. 8. ICG8=All aspects of company policies, activities, and products comply with Shariah principles, including in financial and investment matters.	

Research Procedures

The research procedures for this study involve a series of systematic steps aimed at collecting, analyzing, and interpreting data to answer the research questions (Gelo et al., 2008). These procedures will include data collection methods, data analysis techniques, and ethical considerations (Poling et al., 2012). Data will be collected from the selected sample of companies through a combination of methods, including surveys, interviews, and document analysis (Marwanto et al., 2020; Soenyono & Basrowi, 2020). Surveys will be administered to gather quantitative data related to the Pentagon Fraud Model, Financial Statement Fraud, and Islamic Corporate Governance. Document analysis will involve a meticulous examination of financial statements, corporate governance reports, and relevant documents to extract data that pertains to the research variables.

Once the data is collected, it will be subjected to rigorous analysis (Edwards, 2020). Statistical techniques, including regression analysis, will be employed to assess the influence of the Pentagon Fraud Model on Financial Statement Fraud. This analysis will also evaluate the moderating role of Islamic Corporate Governance in the relationship between these variables (Basrowi & Maunnah, 2019; Suwarno et al., 2020). Data analysis will be carried out using Smart PLS software to ensure accuracy and reliability (Basrowi & Utami, 2023; Mustofa et al., 2023; Suseno & Basrowi, 2023). Throughout the research procedures, ethical considerations will be paramount. Informed consent will be obtained from all participants, ensuring their voluntary participation and confidentiality (Karbwang et al., 2018). Research ethics guidelines will be strictly followed to protect the rights and well-being of all involved parties, including companies and individuals (Bell & Bryman, 2007). Ethical standards will be maintained at each stage of the research process, from data collection to reporting of results (Gundersen, 2017). These research procedures are designed to provide a comprehensive and methodical approach to investigating the relationship between the Pentagon Fraud Model, Financial Statement Fraud, and Islamic Corporate Governance while upholding the highest ethical standards in research conduct (Basrowi & Utami, 2020; Suseno et al., 2018).

4. Results and Finding

4.1 Description data

The survey began with segments dedicated to collecting information about the demographic characteristics of the participants, including three key aspects: gender, age, and educational history.

Table 2
Descriptive statistics

Measurement	Latent construct/value	f	(%)
Gender	Male	152	56.30
	Female	118	43.70
Age	< 30	74	27.41
	30 - 40	93	34.44
	41 – 50	55	20.37
	> 50	48	17.78
Education	High school	60	22.22
	D3	48	17.78
	S1	132	48.89
	S2	30	11.11

Table 2 provides an overview of a respondent sample encompassing three key categories: Gender, Age, and Education, with a total of 270 participants. The data reveals that most respondents are male, accounting for 56.30% of the sample, while female respondents make up the remaining 43.70%. In terms of age distribution, the largest proportion falls within the 30-40 age group (34.44%), followed by respondents under 30 years old (27.41%), those aged 41-50 (20.37%), and those over 50 (17.78%). When it comes to educational backgrounds, the majority of the sample holds a Bachelor's degree (48.89%), followed by those with a High School education at 22.22%, a Diploma (D3) at 17.78%, and a Master's degree (S2) at 11.11%. This data analysis offers an initial insight into the composition of the sample, providing a foundational understanding for further research or decision-making related to the respondents' gender, age, and educational profiles.

4.2 Validity and reliability

In the Confirmatory Factor Analysis (CFA) table, we have conducted an analysis to assess the validity and reliability of the various constructs used in the study (see Table 3). The results paint a highly positive picture of the quality of the measurement instruments used. First and foremost, the Pressure construct, which measures stress in the context of the study, shows very high reliability with a Cronbach's Alpha of 0.978 and a rho_A of 0.979. The high outer loadings on all items (above 0.9) confirm that all these items effectively measure the Pressure construct. Next, the Opportunity construct also exhibits very strong reliability, with a Cronbach's Alpha of 0.973 and a rho_A of 0.976. The high loadings on certain items indicate that these items significantly contribute to measuring the Opportunity construct. The Rationalization, Capability, and Action constructs also demonstrate good reliability, with Cronbach's Alpha and rho_A values suggesting adequate internal consistency. High loadings on several items within these constructs further affirm the effectiveness of these items in measuring their respective constructs. The Financial Statement Fraud (FSF) construct, which serves as the response variable in the study, exhibits good reliability with a Cronbach's Alpha of 0.959 and a rho_A of 0.960. Although some items have lower loadings, the construct can still be considered reliable. Lastly, the Islamic Corporate Governance (ICG) construct, which serves as a moderating variable in the study, displays good reliability with a Cronbach's Alpha of 0.966 and a rho_A of 0.971. High loadings on several items within this construct confirm the effectiveness of these items in measuring ICG. Overall, the results of the confirmatory factor analysis instill confidence that the measurement instruments used in this study are valid and reliable. This underscores that the constructs employed in the study effectively reflect the variables under investigation, and the analysis results can be relied upon to test the research hypotheses.

Table 3
Confirmatory factor analysis

Construct	Items	Outer	Cronbach's Al-	rho_A	CR	AVE
Pressure	PRESS1	0.935	0.978	0.979	0.982	0.885
	PRESS2	0.946				
	PRESS3	0.945				
	PRESS4	0.943				
	PRESS5	0.935				
	PRESS6	0.947				
	PRESS7	0.935				
Opportunity	OPP1	0.871	0.973	0.976	0.978	0.862
	OPP2	0.940				
	OPP3	0.943				
	OPP4	0.920				
	OPP5	0.960				
	OPP6	0.909				
	OPP7	0.951				
Rationalization	RAT1	0.881	0.967	0.974	0.972	0.835
	RAT2	0.916				
	RAT3	0.953				
	RAT4	0.922				
	RAT5	0.929				
	RAT6	0.889				
	RAT7	0.903				
Capability	CAP1	0.879	0.965	0.973	0.971	0.827
	CAP2	0.906				
	CAP3	0.947				
	CAP4	0.914				
	CAP5	0.920				
	CAP6	0.892				
	CAP7	0.904				
Action	ACT1	0.870	0.962	0.970	0.968	0.814
	ACT2	0.901				
	ACT3	0.947				
	ACT4	0.901				
	ACT5	0.922				
	ACT6	0.875				
	ACT7	0.896				
Financial Statement Fraud	FSF1	0.916	0.959	0.960	0.966	0.780
	FSF2	0.871				
	FSF3	0.930				
	FSF4	0.863				
	FSF5	0.708				
	FSF6	0.935				
	FSF7	0.924				
	FSF8	0.896				
Islamic Corporate Governance	ICG1	0.858	0.966	0.971	0.971	0.806
	ICG2	0.888				
	ICG3	0.935				
	ICG4	0.900				
	ICG5	0.907				
	ICG6	0.863				
	ICG7	0.917				
	ICG8	0.911				

4.3 Direct Effect

In the presented of direct effects (see Tabel 4 and Figure 2), we have examined a set of hypotheses that investigate the direct impact of various construct factors, namely Pressure, Opportunity, Rationalization, Capability, and Action, on the risk of Financial Statement Fraud (FSF). The results of the analysis indicate that each of these construct factors has a direct, positive, and significant influence on the risk of Financial Statement Fraud. Firstly, Pressure has been found to have a significant impact on the risk of Financial Statement Fraud, in alignment with Hypothesis H1. This implies that as the level of Pressure increases, the risk of FSF faced by the company also rises. Secondly, Opportunity also exhibits a direct and significant impact on the risk of Financial Statement Fraud, supporting Hypothesis H2. This suggests that higher levels of Opportunity are associated with increased FSF risk. Thirdly, Rationalization plays a role in elevating the risk of Financial Statement Fraud, in accordance with Hypothesis H3. This indicates that higher levels of Rationalization are linked to a greater need for vigilance regarding FSF risk. Fourthly, the Capability construct has a direct and significant impact on the risk of Financial Statement Fraud, confirming Hypothesis H4. In other words, as Capability levels increase, the FSF risk that needs to be considered also rises. Lastly, Action has been found to have a direct, positive, and significant influence on the risk of Financial Statement Fraud, supporting Hypothesis H5. This suggests that as the level of Action increases, so does the FSF risk faced by the company. These results provide a comprehensive understanding of how these factors contribute to the risk of Financial Statement Fraud, which can be used by companies to take preventive measures and manage this risk more effectively. In the context of risk management and corporate governance, understanding these direct effects is crucial in efforts to maintain the integrity and transparency of financial reports.

Table 4
Direct effect

Hypothesis	Construct*)	Original Sample	STDEV	T Statistics	P Values	Result
H1	PRESS → FSF	0.186	0.186	3.799	0.000	Accepted
H2	OPP→ FSF	0.278	0.255	4.932	0.000	Accepted
H3	RAT → FSF	0.192	0.194	3.972	0.000	Accepted
H4	CAP → FSF	0.319	0.998	5.912	0.000	Accepted
H5	ACT → FSF	0.311	0.512	5.900	0.000	Accepted

*) PRESS=Pressure; OPP=Opportunity; RAT=Rationalization; CAP=Capability; ACT=Action; FSF=Financial Statement Fraud

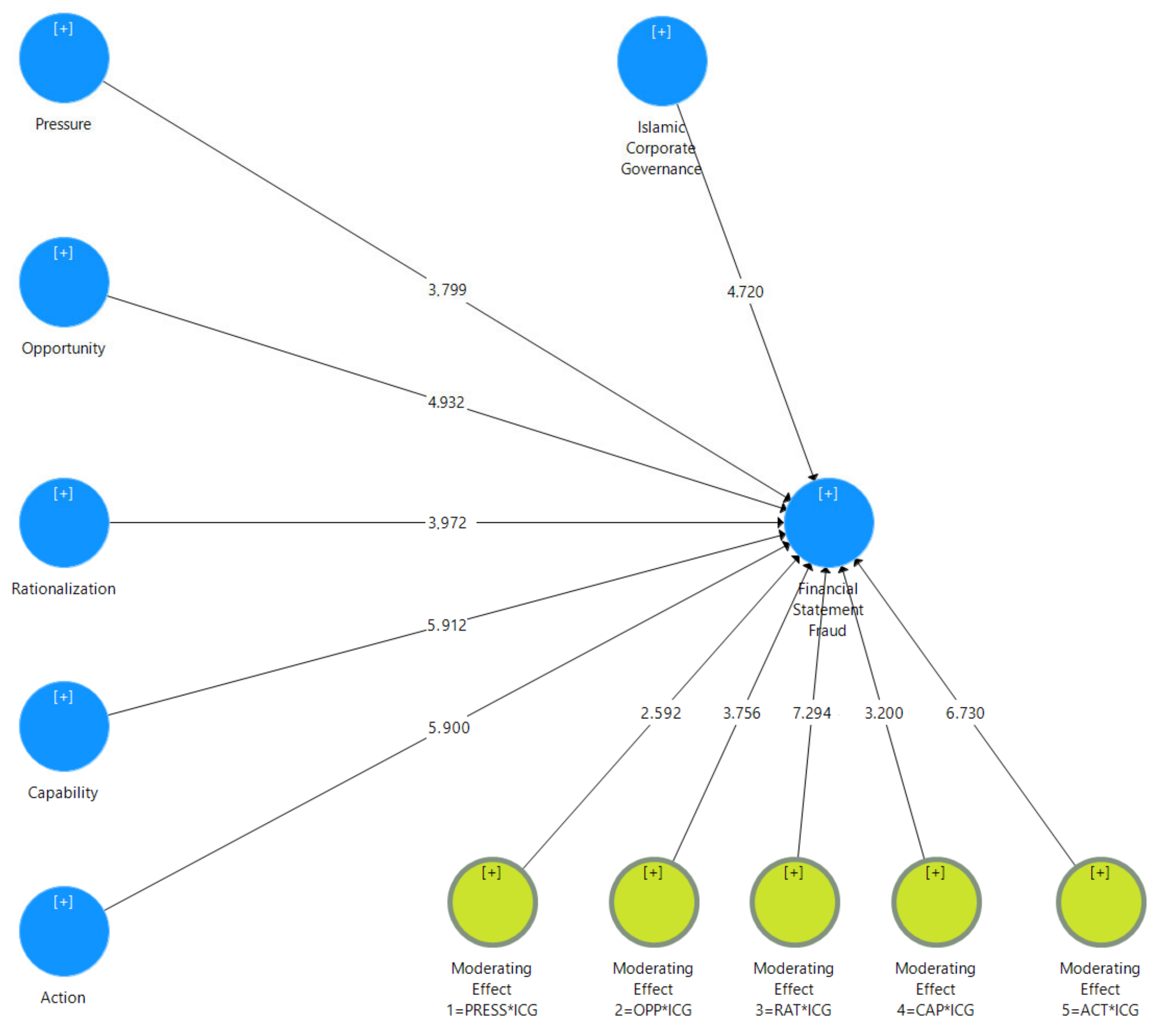

Fig. 2. Path analysis

4.4 Moderation effect

Table 5 reveals that Islamic Corporate Governance (ICG) has a significant negative moderating effect on the relationship between independent variables such as Pressure, Opportunity, Rationalization, Capability, and Action, and the risk of Financial Statement Fraud (FSF). This negative moderating effect indicates that the stronger the role of ICG within an organization, the weaker the relationship between factors like Pressure, Opportunity, Rationalization, Capability, and Action, and the risk of FSF. Hypothesis H6, which pertains to the moderating effect of ICG on the relationship between Pressure and FSF risk, suggests that the greater the role of ICG in an organization, the lower the impact of Pressure on FSF risk. A similar pattern is observed in Hypotheses H7, H8, H9, and H10, where ICG diminishes the influence of the respective independent variables on FSF risk. The moderating effect of ICG in controlling these relationships is highly significant, as indicated by the very low p-values. These findings provide strong evidence of the pivotal role of ICG in managing FSF risk and preserving the integrity of financial statements within the context of this study. Thus, effective corporate governance practices represented by ICG have a positive impact on reducing the potential for financial statement fraud and enhancing transparency and integrity in corporate financial reporting.

Table 5

Moderation effect

Hypothesis	Construct*)	Original Sample	STDEV	T Statistics	P Values	Result
H6	Moderating Effect 1=PRESS*ICG → FSF	-0.125	0.070	2.592	0.000	Accepted
H7	Moderating Effect 2=OPP*ICG → FSF	-0.183	0.066	3.756	0.000	Accepted
H8	Moderating Effect 3=RAT*ICG → FSF	-0.855	0.299	7.294	0.000	Accepted
H9	Moderating Effect 4=CAP*ICG → FSF	-0.250	0.249	3.200	0.000	Accepted
H10	Moderating Effect 5=ACT*ICG → FSF	-0.781	0.879	6.730	0.000	Accepted

*) PRESS=Pressure; OPP=Opportunity; RAT=Rationalization; CAP=Capability; ACT=Action; FSF=Financial Statement Fraud; ICG= Islamic Corporate Governance

Furthermore, to delve into the influence of a moderating variable on the relationship between two other variables in this research, simple slope analysis is employed (see Fig. 3). In this analysis, researchers can depict how the moderating variable affects and regulates the extent to which the two involved variables interact (Hayes & Montoya, 2017). Additionally, another objective is to measure the extent to which this moderating effect influences, whether it strengthens or weakens the relationship between the variables being moderated (Henseler & Fassott, 2010). This analysis also assists in identifying whether the moderating effect remains consistent at different levels of the moderating variable or not (Matthews et al., 2018). Furthermore, by providing relevant statistical outcomes, this analysis aids in making statistical decisions and determining the significance of research findings (Dawson, 2014). Lastly, the results from simple slope analysis offer a clear and effective way to present and explain research findings to stakeholders (Hubbard et al., 2017). Therefore, simple slope analysis plays a crucial role in helping researchers understand and communicate the moderating effects in their research.

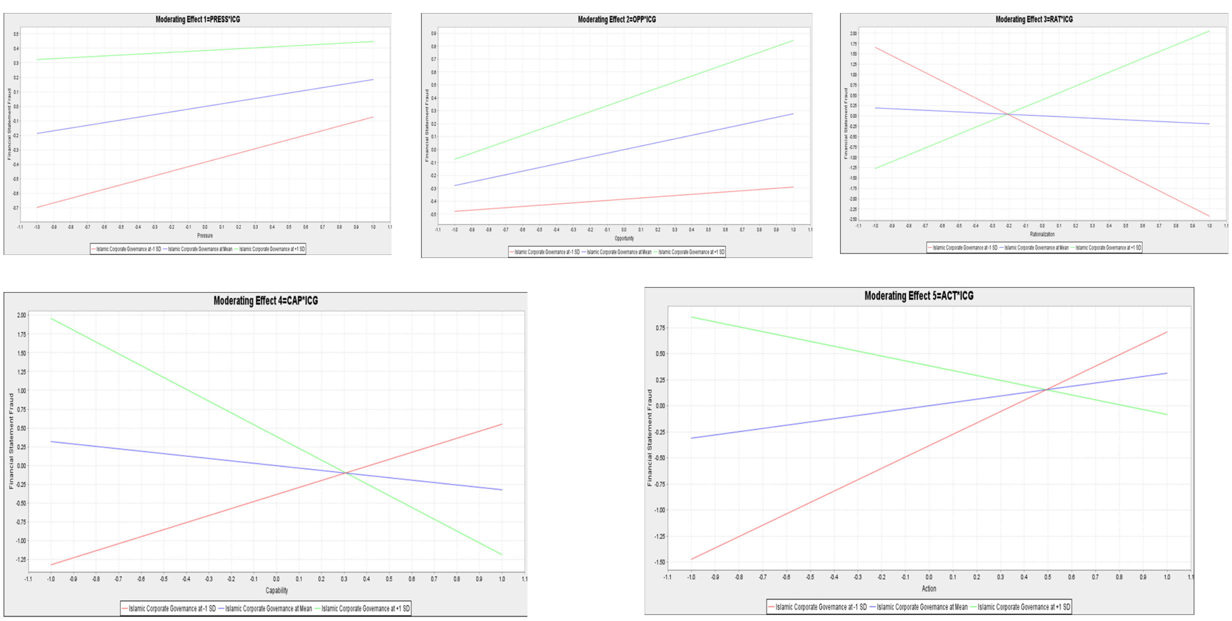

Fig. 3. Simple Slope Analysis

In this analysis, we delve into the fascinating world of moderating effects in the context of Islamic Corporate Governance (ISG). Specifically, we explore Hypothesis (H6) how ISG moderates the relationship between Pressure (PRESS) and the risk of Financial Statement Fraud (FSF) at three distinct levels of ISG: -1 SD, mean, and +1 SD. The richness of this analysis lies in the data and findings you've provided. At the lower end of the ISG spectrum, where ISG ranges from -1 to 1, our analysis reveals a moderation effect of -0.125. What's captivating here is the sheer statistical significance of this moderation. The exceptionally low p-value of 0.000 underscores the strength of ISG's influence on the relationship between PRESS and FSF at the low ISG level. In simple terms, ISG's presence significantly weakens the connection between the pressure and the risk of financial statement fraud at this level. Even at the mean level of ISG, with values ranging from -0.2 to 0.19, the moderation effect of -0.125 remains a potent force. The p-value remains astonishingly low at 0.000, affirming that ISG at the mean level significantly diminishes the link between PRESS and FSF. It's intriguing to note that ISG's impact on the relationship endures at this average ISG level. The analysis extends to the high ISG level, where ISG spans from 0.31 to 0.45. Remarkably, the moderation effect of -0.125 still maintains its significance with a p-value of 0.000. This signifies that even at the high ISG level, the moderating influence of ISG remains potent in weakening the relationship between PRESS and FSF. this analysis underscores the remarkable influence of ISG as a moderator. Regardless of whether ISG is at a low, mean, or high level, the moderation effect, quantified at -0.125, consistently weakens the connection between pressure (PRESS) and the risk of financial statement fraud (FSF). It provides invaluable insights into the pivotal role that Islamic Corporate Governance (ISG) plays in regulating and managing the risk of financial statement fraud. It highlights the significance of robust ISG practices in safeguarding the integrity of a company's financial reports. In the realm of corporate governance and risk management, ISG emerges as a compelling force to be reckoned with.

Hypothesis H7 reveal that ISG exerts a highly significant moderating influence on the relationship between Opportunity (OPP) and FSF at all three ISG levels. Even at the low level, where ISG ranges from -0.51 to -0.4, the moderation effect of -0.183 remains a significant factor. This significance carries through to the average and high ISG levels, where ISG's impact in weakening the connection between OPP and FSF remains strong and substantial. The findings underscore the pivotal role played by ISG in regulating and managing the risk of financial statement fraud. It also highlights the importance of robust ISG practices in upholding the integrity of a company's financial reports, irrespective of the underlying ISG level.

Hypothesis H8 explores the complex interplay between a company's Capability (CAP), the tenets of Islamic Corporate Governance (ISG), and the ever-present specter of Financial Statement Fraud (FSF). The analysis reveals a narrative that is nothing short of profound, with an effect size of -0.855 in the moderating role of ISG. This numerical significance underscores the substantial impact of ISG in shaping the relationship between a company's capability and the potential for financial statement fraud. Even at the low ISG level, where ISG ranges from -2.50 to 1.6, ISG emerges as a potent moderator, significantly diminishing the connection between Capability and FSF. The strikingly low p-value of 0.000 reinforces the statistical importance of ISG's role at this level. At the mean ISG level, characterized by ISG values spanning from 0.1 to 0.2, ISG's moderation remains highly significant. The p-value of 0.000 reaffirms the enduring and influential role of ISG in attenuating the relationship between Capability and FSF. Extending to the high ISG level, where ISG ranges from -1.25 to 2.2, the moderating effect of ISG continues to be a substantial factor. The p-value of 0.000 underscores the unwavering strength of ISG in shaping the connection between Capability and FSF. These findings resonate deeply in the corporate landscape, highlighting the instrumental role of Islamic Corporate Governance in defining the interplay between a company's capability and the risk of financial statement fraud. Whether ISG is at a low, average, or high level, the moderation effect of -0.855 consistently acts as a formidable regulator, attenuating the relationship between capability (CAP) and the potential for financial statement fraud (FSF). The analysis underscores the imperative need for robust ISG practices, not only in upholding the integrity of financial reporting but also in fostering ethical and transparent financial conduct within organizations. It sheds light on the profound and enduring influence of ISG in sculpting the risk landscape in the context of financial statement fraud, underscoring its significance in corporate governance and risk management.

H9 examined the significant moderating effect of Islamic Corporate Governance (ICG) on the relationship between Capability (CAP) and the risk of Financial Statement Fraud (FSF). The results of the analysis indicate that the interaction between CAP and ICG has a statistically significant moderating effect on the relationship between CAP and FSF, with a moderation effect size of -0.250. This finding holds significant implications for understanding Islamic corporate governance and risk management. The negative moderation effect (-0.250) suggests that at higher levels of ICG, the influence of CAP on the risk of Financial Statement Fraud becomes less significant. In this context, the stronger or higher level of ICG weakens the impact of CAP on FSF. This could imply that stronger or better Islamic corporate governance practices at higher ICG levels can mitigate the influence of capability (CAP) in reducing the risk of Financial Statement Fraud. Different levels of ICG, such as -1 SD (low), mean (average), and +1 SD (high), allow for a more in-depth understanding of how this moderation effect operates at varying levels. Simple slope analysis at each ICG level will further illustrate the impact of this moderation on the relationship between CAP and FSF within specific contexts. The results of this analysis provide valuable insights into how ICG plays a role in regulating the relationship between a company's capabilities (CAP) and the risk of Financial Statement Fraud (FSF). This information aids companies and stakeholders in making more informed decisions within the context of Islamic corporate governance. In a broader context, this research underscores the significance of robust Islamic corporate governance in managing financial risk and maintaining the integrity of a company's financial reports.

Hypothesis H10 delves into the realm of Action (ACT), its intricate relationship with Islamic Corporate Governance (ISG), and the potential consequences for Financial Statement Fraud (FSF). The analysis uncovers a narrative of significance, with a substantial moderation effect size of -0.781. This statistic underscores the substantial impact of ISG in regulating the connection between Action and the risk of financial statement fraud. Even at the low ISG level, ranging from -1.50 to 0.6, ISG emerges as a compelling moderator, significantly weakening the association between Action and FSF. The strikingly low p-value of 0.000 underscores the statistical importance of ISG's role in this relationship. At the mean ISG level, characterized by ISG values spanning from -0.35 to 0.3, ISG's moderation remains highly significant. The p-value of 0.000 reaffirms the enduring and influential role of ISG in attenuating the relationship between Action and FSF. Extending to the high ISG level, where ISG ranges from -0.15 to 0.8, the moderating effect of ISG continues to be a substantial factor. The p-value of 0.000 underscores the unwavering strength of ISG in shaping the connection between Action and FSF. These findings illuminate the central role of Islamic Corporate Governance in regulating the interaction between Action (ACT) and the risk of financial statement fraud. Whether ISG is at a low, average, or high level, the moderation effect of -0.781 consistently acts as a potent regulator, mitigating the link between action and the potential for financial statement fraud (FSF). This analysis underscores the imperative need for robust ISG practices, not only in upholding the integrity of financial reporting but also in promoting ethical and transparent financial conduct within organizations. It highlights the profound and enduring influence of ISG in shaping the risk landscape in the context of financial statement fraud, underscoring its significance in corporate governance and risk management.

5. Discussion

In this study, we evaluated the influence of factors known as Pressure, Opportunity, Rationalization, Capability, and Action on the risk of Financial Statement Fraud (FSF). The research findings support hypotheses H1 to H5, indicating that these factors significantly affect FSF. These findings align with prior research, which has shown that financial or psychological pressure (Pressure), opportunities for fraud (Opportunity), rationalization of fraudulent behavior (Rationalization), the capability to engage in fraudulent actions (Capability), and the actions themselves (Action) are critical contributors to FSF (Baskaran et al., 2020; Saluja et al., 2022). However, our research does not stop there. We further investigated the role of Islamic Corporate Governance (ICG) as a moderating factor in the relationship between these factors and the risk of FSF. The research results support hypotheses H6 to H10, indicating that ICG moderates the relationship between Pressure, Opportunity, Rationalization, Capability, and Action, and the risk of FSF. The practical implication of these findings is that companies should consider the essential role of ICG in managing FSF risk. Integrating ICG principles into corporate governance, such as rigorous oversight, business ethics training, and controlling access to financial information, can help mitigate FSF risk. Additionally, our research can be linked to the Pentagon Fraud Model proposed by Saluja et al. (2022). This model aids in identifying FSF trigger factors and understanding how these factors interact. By applying the Pentagon Fraud Model, organizations and auditors can assess the presence and interplay of key elements within a company's operations and culture. This enables them to detect, prevent, and address the root causes of FSF, ultimately promoting transparency, accountability, and the integrity of financial reporting within an organization (Baskaran et al., 2020; Lotfi et al., 2022). Overall, this research provides valuable guidance for practitioners in managing FSF risk more effectively. By understanding the trigger factors and the role of ICG, companies can take wiser and more efficient steps to maintain the integrity of financial reporting, reduce the risk of fraud, and uphold the trust of stakeholders and a good reputation.

6. Conclusion

In the context of this study, our findings align with prior research that has identified factors such as pressure, opportunity, rationalization, capability, and action as triggers for Financial Statement Fraud (FSF) risk. The hypothesis analysis results confirm that these factors influence the level of FSF risk, underscoring the importance of diligent oversight and control in addressing the potential for financial improprieties in financial statements. The empirical implications are that companies need to prioritize efforts to enhance transparency and integrity in their financial reporting. Recognizing the pivotal role of these factors in FSF risk, companies can focus their efforts on developing policies and practices that mitigate the potential pressure, opportunity, rationalization, capability, and action that can trigger fraud. Moreover, the moderation analysis highlights the crucial role of Islamic Corporate Governance (ICG) in reducing FSF risk. The empirical implication is that companies should enhance the implementation of good corporate governance practices, particularly within the framework of ICG, to bolster oversight and control over these risk factors. In our view, the research outcomes hold significant relevance in supporting companies in their efforts to maintain stakeholder trust, safeguard their reputation, and ensure honest and reliable financial reporting. With a better understanding of the impact of these factors on FSF risk, companies can take wiser and more effective steps in managing this risk.

6.1 Theory and practical implication

The findings of this study have both theoretical and practical implications. From a theoretical perspective, this research contributes to the existing body of knowledge on the factors influencing Financial Statement Fraud (FSF). It reinforces the significance of Pressure, Opportunity, Rationalization, Capability, and Action as key drivers of FSF, aligning with prior research in this domain. Additionally, the study extends the theoretical understanding by highlighting the moderating role of Islamic Corporate Governance (ICG) in shaping the relationship between these factors and FSF. This provides valuable insights into the nuanced dynamics at play in the context of FSF.

On a practical level, the implications are substantial. The research underscores the importance of considering the impact of Pressure, Opportunity, Rationalization, Capability, and Action on FSF when developing fraud prevention and detection strategies. Companies and organizations can use this knowledge to enhance their risk management practices and internal controls, focusing on areas vulnerable to fraudulent activities. Furthermore, the role of ICG as a moderating factor emphasizes the significance of integrating ethical principles and governance mechanisms into corporate practices. This can lead to more robust and effective measures to prevent and address FSF. In summary, the study's theoretical implications enrich the academic understanding of FSF and its contributing factors, while the practical implications provide valuable guidance for practitioners and organizations to proactively manage the risk of FSF and uphold the integrity of their financial reporting processes.

6.2 Limitations and recommendation

This study, while contributing valuable insights, does come with certain limitations. It focused on a specific context, and the findings may not be universally applicable. Variations in regulatory frameworks, cultural factors, and industry-specific conditions could influence the observed relationships differently in other settings. The research relied on self-reported measures for data collection, which may introduce response bias or social desirability bias. To enhance data accuracy, future research could explore alternative data collection methods or combine self-reported data with objective measures. Moreover, the study primarily employed cross-sectional data, limiting the ability to establish causality. To provide stronger evidence of the causal relationships between the studied variables, future research may consider longitudinal or experimental research designs.

In light of these limitations, there are several recommendations for future research and practical applications. Firstly, researchers are encouraged to replicate this study in diverse contexts to validate the generalizability of the findings. Comparative studies across industries and countries can offer a more comprehensive understanding of the relationships between the variables. Additionally, conducting longitudinal studies to track the dynamics of FSF and the moderating role of ICG over time can provide insights into the causal relationships and the sustainability of the effects.

Future research can also benefit from a mixed-methods approach that combines quantitative data with qualitative insights, allowing for a more holistic understanding of the subject matter. Organizations are advised to consider the practical implications of this research by integrating ethical and governance principles, as moderated by ICG, into their corporate practices. This includes strengthening internal controls, ethics training, and promoting a culture of integrity. Policymakers and regulators should take note of the findings and consider incorporating the role of ICG as a potential safeguard against FSF in their regulatory frameworks. Educational institutions can integrate these findings into their curriculum, emphasizing the importance of ethical governance, risk management, and internal controls in their business and accounting programs. By addressing these recommendations, researchers and practitioners can further advance the understanding of FSF and enhance measures to mitigate this financial risk effectively.

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