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FACTORS AFFECTING FINANCIAL DISTRESS: EVIDENCE FROM INDONESIA

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ABSTRACT

This study analyzes the impact of various factors on financial distress in Indonesian companies, focusing on profitability, institutional ownership, firm size, firm age, interest expense, dividend payout, retained earnings, and the COVID-19 pandemic. The objective of the research was to understand the effects of those internal and external factors before crisis, during crisis and post crisis. Data from companies listed on the Indonesia Stock Exchange (excluding the financial sector) from 2013 to 2022. The numbers of the sample based on the criteria were 691 companies, which makes 6132 observation points in total as the sample for this research. The sample was analyzed using logistic regression to determine the relationship between these variables and financial distress. The study found that profitability significantly reduces the likelihood of financial distress, while firm size, firm age, high interest expenses, high retained earnings, and the COVID-19 pandemic significantly increase the likelihood of financial distress. Based on the findings, this study analyzed the impact of a company's condition during a crisis and the effect of external factors on the probability of financial distress and its impact on the company. The study can be used as a basis for company planning under external pressure conditions, considering the possibility of future events like pandemics or other crises.

Keywords: Financial Distress; Profitability; Firm Size; Interest Expense; COVID-19

INTRODUCTION

Capital markets play a crucial role in a country's economy as a primary source of financing for companies. Various factors can affect a company's financial performance, potentially leading to financial distress, a stage of financial decline before bankruptcy or liquidation (Dirman, 2020). In Indonesia, many companies listed on the Indonesia Stock Exchange (IDX) are influenced by various external and internal factors affecting their financial stability.

Internal factors such as profitability, corporate governance (institutional ownership), firm size, and firm age significantly impact a company's financial health. Profitability measures how efficiently a company uses its assets and manages its operations (Ross et al., 2023). Good corporate governance ensures transparency and accountability in a company's operations, creating added value for stakeholders (Mayda & Serly, 2021). Firm size indicates financial strength by reflecting the company's asset base (Yadav et al., 2022), while firm age provides insight into the company's experience and stability (Serolin, 2023).

On the other hand, external factors like the COVID-19 pandemic have significantly impacted the global economy, especially companies in Indonesia. Social restrictions and reduced economic activity during the pandemic increased the risk of financial distress for many companies (Mulyaningsih et al., 2021). The pandemic exerted substantial pressure on the Indonesian economy, resulting in negative growth for the first time since the 1998 monetary crisis.

The negative growth, indicated by a 2.07% GDP decline in 2020 (The World Bank, 2021), highlights the severe impact of the COVID-19 pandemic. Unemployment rates surged as many companies reduced their workforce or ceased operations entirely. This economic downturn underscores the pandemic's extensive influence on Indonesia's corporate sector and broader economy.

After the pandemic occurs company need to be more prepared to the instability of the externally pressured condition that affect the market landscape and social condition of Indonesia. During 2022 until 2024 Indonesia still recovering from the post COVID-19 conditions as many of the companies fall into the financial distress condition and still struggling with maintain its operational and financial condition.

This research will analyze the impact of these internal and external factors on financial distress among all companies in Indonesia. By examining an extended period, this study aims to provide comprehensive insights into how these factors influence a company's financial performance. It also seeks to assist companies and stakeholders in formulating better financial risk mitigation strategies.

LITERATURE REVIEW

Profitability

Profitability ratios are used to assess a company's ability to generate profits within a certain period. Profitability indicates how efficiently a company uses its assets and manages its operations (Ross et al., 2023). It is a key indicator of company performance, encompassing all revenues and expenses incurred over time. High profitability enhances shareholder welfare and attracts investor interest (Dirman, 2020).

Return on Assets (ROA) is calculated by dividing net income by total assets. It measures the net profit generated from each unit of capital invested in total assets, reflecting a company's ability to maximize asset use. Analyzing ROA helps assess a company's profitability and

operational effectiveness. A high and consistent ROA indicates financial stability, ensuring the company can cover debts and unexpected expenses, while a low ROA increases financial risk (Giovanni & Djashan, 2023).

Low profitability is often due to inefficiencies in operating assets to generate profits, potentially leading to losses and financial distress (Purwaningsih & Safitri, 2022). Research by Habibi & Utami (2022), Giovanni & Djashan (2023), and Minanari (2022) indicates that higher profitability reduces financial distress risk by demonstrating effective asset use. Conversely, studies by Purwaningsih & Safitri (2022) and Bukhori et al. (2022) show that higher profitability can increase the likelihood of financial distress, as low EBIT relative to total assets indicates poor asset utilization. Therefore, despite some studies showing profitability reduces financial distress, my results indicate that higher profitability has a negative impact, increasing the probability of financial distress.

Institutional Ownership

Institutional ownership is a corporate governance mechanism that can reduce agency problems between owners and managers, aligning the interests of both parties. It represents the percentage of shares owned by legal entities or financial institutions such as insurance companies, pension funds, mutual funds, banks, and other institutions.

Institutional ownership can mitigate agency conflicts as institutional shareholders help oversee the management's performance. Effective corporate governance maximizes company performance, involving relationships among management, the board, owners, shareholders, and other stakeholders. Institutional ownership is vital in enhancing oversight of management performance, thereby minimizing the potential for financial distress (Azizah & Lismawati, 2024).

Research by Anggraeni et al. (2024), Handriani et al. (2021), Manzaneque et al. (2016), and Sewpersadh (2022) shows that institutional ownership negatively correlates with the likelihood of financial distress. A higher number of directors in manufacturing firms may reduce financial distress (Anggraeni et al., 2024).

Firm Size & Firm Age

Firm size is understood as the total assets owned by a company. It can be measured using two variables: Total assets and net sales. Total assets include current assets, net property, plant and equipment, and non-current assets (such as intangible assets, deferred charges, and investments). Net sales refer to company revenues after deducting sales discounts, returns, and allowances (Yadav et al., 2022).

Measuring firm size by calculating a company's total assets can serve as an indicator of the company's scale. A large total asset base signals to creditors that the company can repay its debts. Smaller companies, with fewer total assets, face more challenges in securing external funding compared to larger companies. Other factors to consider regarding firm size include market recognition, connectivity, and funding sources, where smaller companies typically struggle with limited access to these factors. The difficulty in obtaining external funding is a factor that can increase the likelihood of financial distress (Anggraeni et al., 2024).

Research by Anggraeni et al. (2024) indicates that companies with larger total assets have a lower likelihood of financial distress. This finding aligns with previous research by Isayas (2021), which suggests that larger companies are in a better financial position and less likely to face bankruptcy. However, contrasting research by Christy & Natalylova (2023) shows that firm size positively influences the likelihood of financial distress. They argue that larger total assets imply greater burdens for the company to manage. This is supported by Dirman (2020),

who states that larger total assets increase the company's obligations, potentially affecting financial distress risk.

Firm age is the duration from a company's founding to an indefinite point in time. Older companies generally possess advantages in information and experience compared to younger firms, having accumulated operational hours and experience over the years (Serolin, 2023). Firm age can be calculated using different terminologies. One method measure from the company's founding date to the present, while another calculates the time from the company's Initial Public Offering (IPO) to the present (Kieschnick & Moussawi, 2018).

Interest Expense

Interest expense is the cost incurred by a company for borrowing funds. This debt can take the form of direct loans, bonds, or other types of loans. Interest is separate from the principal amount of the debt. It is defined as the profit or cost earned by the creditor for the use of money by the debtor. Interest is generally expressed as a percentage per year of the borrowed amount or capital.

The interest expense is the cost a company incurs for using funds provided by creditors. Interest expenses are closely related to the company's debt usage. Companies with substantial debt generally have high interest expenses. If not properly maintained, the company can be categorized as experiencing financial distress, potentially leading to default. Research by Purwaningsih & Safitri (2022) shows that a high Debt to Equity Ratio (DER) does not significantly impact the likelihood of financial distress. This contrasts with the study by Habibi & Utami (2022), which found that DER significantly affects financial distress. A high DER or high leverage indicates a larger amount of debt relative to equity, increasing the company's financial obligations and interest expenses.

According to Giovanni & Djashan (2023), high leverage translates to high interest expenses. Interest expenses affect the company's financial burden, especially during periods of reduced profitability, such as the COVID-19 pandemic. High interest expenses can hinder the company's cash flow and reduce its ability to meet financial obligations. This financial strain can make it challenging for the company to operate and fulfill other financial commitments.

Dividend Payout

Dividend payout is a portion of a company's profits distributed to its shareholders. Dividends are drawn from the company's retained earnings (Adiwibowo et al., 2023). Dividend payout influences investors' willingness to invest in a company. A good dividend policy, which decides whether retained earnings will be distributed as dividends or kept for future investment funding, can increase the likelihood of attracting more investments (Antika et al., 2018). The decision to pay dividends affects other aspects that can lead to financial distress. According to Ali et al. (2017), companies that stop paying dividends experience declines in profitability, asset growth, and increased financial problems. Conversely, companies that continue to pay dividends tend to be more profitable and have higher retained earnings.

Research by Antika et al. (2018) indicates that an easy way to identify if a company is in good financial health or distress is by observing its dividend payments. Companies often omit dividends when facing financial distress. During crises, firms tend to take conservative actions by retaining earnings as reserve cash instead of distributing them as dividends to ensure financial stability and prepare for future financing needs (Farooq et al., 2023). The COVID-19 pandemic led to significant changes in dividend policies, with many companies, such as those in Morocco, substantially reducing or entirely withholding dividend payments due to economic instability.

Retained Earnings

Retained earnings represent the amount of money the company can use at any time for capital expenditures or to support its operations. A company's retained earnings is one of the long-term financial strategies that can be used by companies' management to decide how much earnings will be paid out as against retaining them for investment in the company. The use of retained earnings will decide how much of the proportion that will be given as dividend payment and how much will be reinvested back to the company (Mulekano & Miroga, 2023). Retained earnings are classified as shareholders' funds or equity on the balance sheet (Lawal et al., 2022). Retained earnings, theoretically, represent the company's accumulated profits and can be categorized as the company's cash reserves. Retained earnings can be used for internal funding needs, operational expenses, and reinvestment back into the company (Anggraeni et al., 2024; Chabachib et al., 2019). According to Anggraeni et al. (2024), retained earnings negatively correlate with the likelihood of financial distress. Companies with substantial retained earnings (cash reserves) are less likely to experience financial distress because they do not need to seek external funding, which reduces expenses like interest costs and positively impacts cash flow.

Research by Li et al. (2020) supports this, indicating that companies with significant retained earnings can better cope with financial changes, reducing the risk of financial distress. This internal buffer helps manage the company's financial stability, lowers the risk of bankruptcy, and reduces funding costs associated with debt.

Pandemic COVID-19

COVID-19, caused by the novel coronavirus SARS-CoV-2, significantly impacted economic conditions and business operations. The economic impact of pandemic will be massive and uncertain, with different effects expected on labor markets, production supply, supply chains, financial markets, small medium enterprises, and GDP levels will all be affected. The negative effects may vary by the stringency of the social distancing measures (e.g., lockdowns and related restrictions), their length of social distancing measure, and the degree of compliance, it will affect the market from the top to bottom of the chains (Brodeur et al., 2021). The pandemic disrupted operations, reduced profitability, and altered the market landscape. Companies faced financial difficulties as operations were hindered, consumer conservatism reduced profitability, and cash shortages increased the risk of debt default. Additionally, operational disruptions were exacerbated by regulatory restrictions and protocols necessary for businesses to continue operating (Giovanni & Djashan, 2023).

The pandemic led to a substantial decline in economic growth, with Indonesia experiencing a contraction of -5.32% in the second quarter of 2020, down from 2.97% growth in the first quarter. The transportation sector was particularly affected, with reduced demand for passenger and freight transport. Government policies to control transportation further decreased operations, impacting revenues significantly (Saputra et al., 2022).

The COVID-19 pandemic significantly impacted Indonesia's economy. Economic activity declined due to large-scale restrictions and lockdown regulations, affecting many industries that support the country's economic growth (Hafsari & Setiawanta, 2021). Research by (Habibi & Utami, 2022) showed that the pandemic did not significantly impact the likelihood of financial distress in the manufacturing sector, as these companies are primarily business-to-business and integral for supplying medical equipment to address the pandemic.

Conversely, research by Paulina & Ida (2022) on the aviation industry's bankruptcy due to COVID-19 found that three out of four studied companies went bankrupt. This was driven by mass restrictions and lockdowns, which severely impacted transportation, limiting capacity

to 50%. This drastically reduced profitability and sales while maintaining high costs. Rahman (2022) found that the COVID-19 pandemic increased the number of companies experiencing financial distress.

Financial Distress

Financial distress is a condition where a company faces significant financial difficulties, occurring before bankruptcy or liquidation (Dirman, 2020). Failure in these aspects can deepen financial trouble. Financial distress can be caused by cash flow problems, matured markets, new competitors, technological advancements, management malfunctions, and products at the end of their lifecycle (Sewpersadh, 2022).

According to Altman et al. (2019), financial distress terminology includes:

1. Failure: Economic failure occurs when the realized rate of return on an investment significantly lags similar investments considering associated risks. This indicates a failure to meet market expectations.
2. Insolvency: This represents a condition where a company cannot meet its financial obligations on time, indicating cash flow or liquidity deficits. Balance sheet insolvency occurs when total liabilities exceed total assets, signaling significant financial issues.
3. Default: This occurs when a debtor violates agreements with creditors. Technical default involves breaching contract provisions, usually leading to renegotiations rather than immediate debt repayment, signaling declining performance.
4. Bankruptcy: This occurs when a company's liabilities exceed its assets, and the company has legally declared bankruptcy through the court.

RESEARCH METHOD

Data

The study population includes a total of 691 companies listed on IDX. This comprehensive population selection ensures that the research findings can be generalized to all listed companies in Indonesia, achieving objectivity and fair representation. For this research, the procedure was identified and gathered all the companies' data that fulfilled the inclusion criteria. The selection was based on data availability, with the sample taken from S&P Capital IQ covering a 10-year period from 2013 to 2022, resulting in a total sample of 6,132 observations. Based on those observation points, all independent and dependent values were gathered. A descriptive analysis was then conducted on the samples to understand the characteristics of the samples. Classical assumption tests were also conducted to ensure the validity of the logistic regression model. Observation points were processed and calculated using statistical software named STATA. This study employs a quantitative research design using logistic regression to determine the relationship between independent variables and financial distress as the dependent variable. This design choice is based on the aim to examining the impact of various factors on financial distress

Empirical Model

$$FD = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_5X_6 + \beta_5X_7 + \beta_5X_8 + d_t + n_i + u_{it}$$

Where:

FD = Probability of a company experiencing financial distress

β_0 = Constant

$\beta_1- \beta_5$ = Coefficient of independent variables

X_1	= Profitability
X_2	= Institutional ownership
X_3	= Firm size
X_4	= Firm age
X_5	= Interest expense
X_6	= Dividend payout
X_7	= Retained Earnings
X_8	= Pandemic COVID-19
d_t	= Time effect
n_i	= Individual effect
u_{it}	= random disturbance

RESULTS AND DISCUSSIONS

Descriptive Statistic

The table below displays the statistical descriptive data for each variable in this study:

Table 1. Descriptive Statistic

Variable	Obs	Mean	Std. dev	Min	Max
RoA	6.132	4.291345	6.777579	-15.435	32.644
IO	6.132	5.074553	8.992713	0	50.017
COV	6.132	0.3250163	0.4684191	0	1
Firmsize	6.132	11.81401	1.800403	7.315537	15.79258
DIV	6.132	0.3988911	0.4897102	0	1
FINEXP	6.132	-0.0203513	0.0208887	-0.105497	0
RE	6.132	0.0130331	0.6519157	-4.305987	0.7617144
AGE	6.132	3.283918	0.6886707	1.386294	5.293305
FD	6.132	0.4629811	0.4986684	0	1

Table 2. Robust Logistic Regression Test

Variable	Coefficient	Robust Standard Error	Z	P> z
RoA	-0.21857	0.0179	-12.02	0.000
IO	-0.02919	0.0084	0.35	0.728
COVID-19	0.69694	0.1515	4.6	0.000
FirmSize	0.32031	0.0601	5.33	0.000
DIV	0.16028	4.2025	1.03	0.303
FINEXP	14.8327	1.2737	3.53	0.000
RE	20.3272	0.1593	15.96	0.001
AGE	0.52891	0.8934	3.32	0.000

The regression results show that ROA has a significant negative impact on financial distress, with a coefficient of -0.21857 and a p-value of 0.000. This indicates that higher profitability reduces the likelihood of financial distress, demonstrating that more profitable companies are financially stable and better able to meet their financial obligations. A high ROA suggests efficient asset management and profitability, leading to a lower risk of financial distress. This finding is supported by previous studies, such as Digdowiseiso & Ningrum (2022), which found that ROA negatively affects financial distress in the food and beverage sector.

Institutional ownership (IO) does not significantly affect the likelihood of financial distress in this research, IO factor got coefficient factor of -0.02919 and a p-value of 0.728. This result indicates that the proportion of shares held by institutions is not strong enough to

influence the financial stability of companies. The lack of significant impact suggests that changes in institutional ownership do not significantly relate to financial distress within the sample studied. This finding differs from previous research, possibly due to sample variations, time periods, or analytical methods used.

Firm size has a significant positive impact on the likelihood of financial distress, with a coefficient of 0.32031 and a p-value of 0.000. Larger companies are more prone to financial distress due to increased operational complexity and higher debt levels. Larger firms often have higher operational costs and face greater financial obligations, increasing the risk of financial distress. This finding is consistent with research by Christy & Natalylova (2023) which also found that larger firms are more likely to experience financial distress.

Firm age shows a significant positive impact on the likelihood of financial distress, with a coefficient of 0.52891 and a p-value of 0.001. Older companies may struggle to maintain operational and managerial sustainability, often sticking to outdated business models that cannot compete in dynamic markets. High legacy costs can also contribute to financial distress. This finding aligns with, which noted that companies in the declining stage of their lifecycle face greater challenges in securing funding and maintaining market value.

Interest expense has a significant positive impact on the likelihood of financial distress, with a coefficient of 14.8327 and a p-value of 0.000. High-interest expenses increase the financial burden on companies, making them more susceptible to financial distress if not managed properly. High-interest expenses can significantly impact a company's cash flow and financial health, particularly if disproportionate to revenue. This finding is consistent with previous research, which showed that high-interest expenses are associated with increased financial distress.

Dividend payout does not significantly affect the likelihood of financial distress, with a coefficient of 0.16028 and a p-value of 0.303. This result indicates that dividend policy does not have a strong impact on the financial stability of companies. The complexity of the dividend policy's impact on financial distress depends on the company's overall financial strategy and market conditions.

Retained earnings have a significant positive impact on the likelihood of financial distress, with a coefficient of 20.3272 and a p-value of 0.001. Companies with large, retained earnings may struggle to manage cash reserves effectively, leading to financial distress. This finding contrasts with previous studies like Anggraeni et al. (2024), which found a negative relationship between retained earnings and financial distress, suggesting that effective management of retained earnings can reduce financial distress risk.

The COVID-19 pandemic has a significant positive impact on the likelihood of financial distress, with a coefficient of 0.69694 and a p-value of 0.000. The pandemic significantly increased the likelihood of financial distress due to restrictive policies that hampered economic activity. This finding supports the hypothesis that the pandemic had a substantial adverse impact on corporate financial health, as noted by Paulina & Ida (2022) and Rahman (2022), who observed increased financial distress among companies during the pandemic.

Then, institutional ownership and dividend payout does not significantly affect the likelihood of financial distress. Overall, the regression analysis shows that internal factors like profitability, retained earnings, and firm age, as well as external factors like the COVID-19 pandemic, significantly impact the likelihood of financial distress. Firm size and interest expenses also play important roles, while institutional ownership and dividend policy do not show significant effects. These findings highlight the importance of effective financial management and adaptability to external conditions in maintaining corporate financial stability.

External factors, such as the pandemic, significantly impact companies in various ways. During the research period, many companies fell into financial distress, largely due to the decline in economic activities, circuit breakers, and disruptions to the supply chain. This aligns with existing theories and previous research, which suggest that pandemics exert substantial pressure on companies' financial conditions, increasing the risk of financial distress. This vulnerability is particularly evident in Indonesia, where many companies operate in labor-intensive sectors such as automotive, textiles, and raw materials. The lack of preparedness in these sectors exacerbates their susceptibility to financial instability during crises.

Companies must become more resilient to market instability and external pressures. The rapidly changing policies during crises highlight the need for companies to strengthen their operations and better prepare for future challenges. In the aftermath of external crises, companies should recognize the inadequacies in their operations and take steps to enhance their ability to withstand market volatility, especially in the retained.

CONCLUSION

This study found that internal factors such as profitability significantly reduce the likelihood of financial distress, indicating that more profitable companies tend to be financially stable. Conversely, factors such as firm size, firm age, high interest expenses, high retained earnings, and the COVID-19 pandemic significantly increase the likelihood of financial distress. Having large, retained earnings and extensive operational experience does not guarantee that a company can avoid financial distress. These findings highlight the importance of effective financial management to mitigate financial difficulties in Indonesian companies.

To reduce the risk of financial distress, companies should focus on increasing profitability through operational efficiency and better asset management. Maintaining sufficient retained earnings and using them efficiently is crucial for financial stability, especially during crises like the COVID-19 pandemic. Large companies need to manage interest expenses and debt to avoid excessive financial burdens. Implementing good corporate governance by strengthening the role of institutional owners in management oversight can also help reduce the risk of financial distress. Governments and regulators should continue to support policies that help companies adapt and survive challenging economic conditions.

Future research should consider adding other variables that may influence financial distress, such as leverage, liquidity, technological innovation, and government policies. This will provide a more comprehensive understanding of the factors affecting financial distress. Subsequent studies can also use different financial distress prediction models, such as the Altman Z-Score, Springate, and Zmijewski models, to validate the results and determine if there are significant differences in findings using different models.

For regulators and policymakers, the priority during a crisis should be the survival of companies. The experience during COVID-19 revealed that government actions were often inadequate due to a lack of experience in managing such crises. Moving forward, it is imperative that policies are designed to keep the economy functioning. Future research suggests that during crises, the government and policymakers should consider measures such as halting interest tax and providing relief to companies as keeping the need of the companies first will provide safety net for Indonesian government and keep a lot of families a float by reducing the possibilities of lay off as one of the companies' ways to eliminate the weight of companies operational.

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SECURITY CHALLENGES AND FOREIGN DIRECT INVESTMENT IN NIGERIA: IMPLICATIONS FOR ECONOMIC GROWTH (2010 – 2024)

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ABSTRACT

This paper examines the effects of security threats on Foreign Direct Investment (FDI) in Nigeria and their broader implications for economic growth. This study adopts a content analysis method to systematically review policy documents, academic papers, news reports, and reports from international organizations published between 2010 and 2024. The analysis focuses on the impact of insurgency, ethnic and religious strife, militancy, kidnapping, and herdsmen-farmer violence on foreign investment inflows and economic stability. Findings reveal that persistent security risks significantly deter foreign capital inflows and disrupt economic activities. Insurgent groups, such as Boko Haram in the North-East, have triggered humanitarian crises and economic stagnation, while ethnic and religious conflicts heighten insecurity. Niger Delta militancy disrupts oil production, and the rise in kidnappings and criminal violence increases business costs and investment risks. Additionally, herdsmen-farmer conflicts weaken agricultural productivity and discourage rural investment. The study highlights the necessity of comprehensive security sector reforms, targeted financial support, and infrastructure development programs to restore investor confidence and sustain economic growth. It recommends enhanced national security investments, financial incentives for security infrastructure, and strategic recovery plans for affected sectors. Addressing these security challenges is essential to creating an environment conducive to sustainable economic development and attracting foreign investment.

Keywords: Security Challenges; Foreign Direct Investment (FDI); Economic Growth; Insurgency

INTRODUCTION

Foreign Direct Investment (FDI) is the lifeblood of any nation's development, especially an emerging economy such as Nigeria. Haque et al. (2022) argue that FDI inflows are a significant foreign financing source for many developing nations, making them a crucial factor in achieving economic growth and development. FDI also facilitates the transfer of technology to the recipient country, enabling it to learn new technologies and new practices from wealthier economies. Such technological spillovers can lead to higher productivity and efficiency across the board (Mohamed et al., 2021). In the past few decades, Nigeria has also made efforts to attract significant levels of FDI to stimulate economic growth and development (Tarasa & Ahmad, 2023). However, Owusu-Antwi et al. (2019) stated that the amount of FDI the country has received has been 'fitful and, at times, incomprehensibly low' - particularly given the country's endowment of natural resources, massive market potential and strategic location. They noted that political instability, insecurity, regulatory bottlenecks, infrastructure deficits, and corruption all contribute to keeping Nigeria's potential to attract significant levels of Foreign Direct Investment (FDI) on hold. These issues create an atmosphere of uncertainty and risk that deters foreign investment. Also, the continuing security threats of insurgencies, ethnic and religious conflict and violent crime contribute significantly to the erratic FDI flows. This inconsistency has several causes, but one of the most significant is the security crisis sweeping most of the country (Danjuma, 2021).

Nigeria's security landscape is characterized by numerous forms of conflict and instability such as insurgencies, ethnic, religious violence, kidnappings, and criminal violence' (Duerksen, 2021). And the kind of security risks of this sort, in turn, create insecurity and uncertainty, which frightens away foreign investors who want to find safe, stable places for their money. The implications of these security challenges for FDI and, by extension, for Nigeria's economic growth are both intricate and profound. Nigeria's experience with FDI is a long one, dating back to the colonial period, when foreign investments were mainly in agriculture, especially cash crops such as cocoa, palm oil and rubber (Amade & Oyigebe, 2024). Following independence, however, the discovery of oil in the late 1950s became a turning point, turning Nigeria into a significant oil-producing country and drawing huge FDI into the oil and gas industries (Dan-Awoh, 2023).

However, the oil-dominated FDI had its shortcomings, particularly in its ineffectiveness at diversifying the economy (Solomon et al., 2024). Oluonye (2022) describes how Nigeria's successive governments have pursued various kinds of policy to bring in foreign capital. Such policies include tax breaks to limit the tax load on investors, sectoral reforms to make business more hospitable to investors in strategic industries, and guarantees that investors are free to take home their profits and investment returns. They are also tests to see the conditions to attract Foreign Direct Investment (FDI) without which Nigeria can't develop or emerge. In the 1980s, Nigeria implemented the Structural Adjustment Programs (SAPs) urged by the International Monetary Fund (IMF) and World Bank to open up the economy and attract foreign capital.

The SAPs stood for liberalization of the economy, privatization of state enterprises and opening of the vast majority of sectors to foreign investors (Danjuma, 2021). Despite all this work, political instability, corruption and infrastructural weakness have repeatedly held Nigeria back in its efforts to draw and hold FDI (Lloyds Bank, 2024). Since the return to democracy in 1999, optimism has been steadily returning, and every government has adopted policies to make the investment climate better. They included provisions like the Nigerian Investment Promotion Commission (NIPC) Act of 1995, which guaranteed the safeguards of foreign

investments, along with the establishment of free trade zones (World Bank Group, 2022). The purpose of this paper is to analyze the nexus between security issues and foreign direct investment in Nigeria and consider how such issues affect investor confidence and economic prosperity.

LITERATURE REVIEW

Security Challenges

Security challenges can also be referred to as insecurity. This term captured various forms of threats and vulnerabilities that undermine the safety and stability of individuals, communities, and nations. Insecurity arises when there is a perceived or actual lack of protection, leading to fear and anxiety among the affected population. Purity & Anigbuogu (2019) discuss the origins of security challenges in Nigeria, highlighting the impact of historical events such as the Nigerian civil war and subsequent military rule. According to Nwokwu & Ogayi (2021), these challenges can be traced back to the early years of military governance, marked by the significant influx of arms imported into the country for military use. Following the civil war, a surplus of these arms found their way into civilian hands, including ex-military personnel. This situation led to an increase in criminal activities such as armed robbery, as civilians and former military personnel utilized these weapons for illicit purposes. Thus, the post-war proliferation of arms contributed significantly to the security challenges faced by Nigeria in subsequent years. Ministry of Budget and Economic Planning (2021) assert that security challenges within a nation pose significant threats to the safety of lives and properties. These challenges not only disrupt business activities but also deter both local and foreign investors from committing resources. Consequently, such insecurity stifles economic growth and development, as the environment becomes less conducive to economic activities and investment opportunities. According to Nigeria-South Africa Chamber of Commerce (2021), insecurity is defined as "the state of fear or anxiety, stemming from a concrete or alleged lack of protection." This definition emphasizes the psychological state of individuals or groups who experience insecurity. It highlights how insecurity is not just about the physical absence of safety measures, but also the perception of vulnerability and threat. The definition encompasses both actual and perceived deficiencies in protection, indicating that even the mere belief or suspicion of inadequate security can contribute to feelings of fear and anxiety. Consequently, insecurity can manifest in various forms, from physical threats like crime and violence to broader societal issues such as political instability and economic uncertainty.

Nwokwu & Ogayi (2021) assert that security challenges do not arise in isolation but are frequently precipitated by a range of criminal activities. These include armed robbery, which involves the use of force or intimidation to steal from individuals or businesses, often resulting in violence and trauma for victims. Kidnapping and hostage-taking further exacerbate security concerns, as perpetrators seek financial gain or political leverage through the abduction of individuals, thereby instilling fear and destabilizing communities. Additionally, banditry and insurgency contribute significantly to security vulnerabilities by perpetuating organized violence and challenging state authority. Terrorism, characterized by ideological or political motivations, poses a grave threat through indiscriminate attacks on civilian populations, infrastructure, and public institutions. Furthermore, conflicts arising from disputes between herders and farmers, as well as tensions between indigenes and settlers, underscore deep-seated societal divisions that can escalate into violent confrontations. These criminal acts not only jeopardize public safety and undermine social cohesion but also have profound economic

implications, deterring investment and disrupting livelihoods (Afolabi & Bodunde, 2020). Afolabi & Bodunde (2020) define a security challenge as any phenomenon that threatens the security of a designated area, which may be delineated by geographic, geopolitical, statehood, national, sub-national, or supranational criteria. They further state that security threats emerge when harmful intentions or actions threaten essential values, making individuals, organizations, or groups vulnerable. The threats can target everything from physical assets and infrastructure to sensitive information, computer networks, and other critical resources. These challenges encompass a wide range of issues, including military threats, terrorism, political instability, economic vulnerabilities, environmental hazards, cyber threats, and social unrest. The impact of these challenges can vary significantly, affecting not only the stability and safety of the region but also influencing political decisions, economic development, and societal well-being. Addressing security challenges often requires comprehensive strategies that involve cooperation among multiple stakeholders, including governments, international organizations, non-governmental organizations, and local communities. Effective responses may involve a combination of diplomatic efforts, military interventions, law enforcement measures, economic policies, and social programs aimed at mitigating risks, preventing conflicts, and promoting sustainable peace.

Foreign Direct Investment

Foreign Direct Investment (FDI), according to the OECD (2023), is an investment made by a resident of one economy (the direct investor) in another economy (the host economy) that gives the investor at least 10 per cent ownership of a company in the host economy and significant control over the management of that company. Such an investment typically involves acquiring majority ownership, at least 10 per cent of the voting shares or common stock, so as to be able to exert meaningful control over the policies and operations of the overseas enterprise. The end goal of FDI is to create a sustained relationship between investors and business, and to encourage movement of capital, technology and expertise. What makes Foreign Direct Investment (FDI) so significant is that it can be a driver of economic growth, productivity and international business partnerships by integrating local firms into global value chains, and by unlocking new markets and resources. Corporate Finance Institute (2024) defined Foreign Direct Investment (FDI) as an investment made by a party in one country into a business or corporation in another country to create a lasting interest. The notion of enduring interest is important because it distinguishes FDI from foreign portfolio investment (or equity) in which investors simply own securities in a foreign country, without much control or influence over the company they own shares of. This continuing ownership is a long-term commitment and constitutes a significant amount of control over the company's operations. Foreign direct investment can take many forms, from establishing new plants to acquiring a controlling share of a company, or reinvesting profits made overseas. Such investment is usually held to be an engine of economic growth and development because it can create jobs, transfer technology and know-how, and make people more productive.

Saurav & Kuo (2020) argued that the main source of external finance for most developing countries now is Foreign Direct Investment (FDI). This type of investment dwarfs all other flows in the financial system, including remittances, private debt, portfolio equity, and official development assistance, in volume and effects. In addition to capital, foreign direct investment (FDI) brings technology, managerial expertise and market access, all of which are essential for economic growth and development of countries like these. The flow of FDI creates jobs, infrastructure and productivity. It is exactly this polysemic effect of FDI that makes it such a key component of the economic strategy of developing countries in the quest for economic

order and sustainable development. Foreign Direct Investment (FDI) is one of the major forces behind globalization (Adegboye et al., 2020). FDI is not even a measure of globalization is to claim that FDI is a cause of globalization. When they operate abroad, via Foreign Direct Investment (FDI), MNEs pump money and lifeblood into foreign markets and, by extension, economies and cultures become intertwined across national boundaries. Foreign Direct Investment (FDI) is a complex economic activity with multiple dimensions (Wang et al., 2021). This is equity capital, or the cash a foreign investor invests in a business when it purchases company shares or equity in a foreign company. That kind of capital is essential to the creation or extension of business activities overseas.

Economic Growth

According to the Reserve Bank of Australia (2024), economic growth is the expansion of a country's economy over time. That expansion is usually counted as a dollar figure representing the sum of all products and services produced by the economy as a whole, or GDP. GDP is the market value of all final goods and services produced in a country during a period of time. Real or nominal, economic growth can be quantified. Nominal GDP is the total value of all goods and services produced over some period of time in the economy, valued at the prices actually paid for them in the market when produced, without any adjustment for inflation or deflation. For this reason, nominal GDP can change with changes in the quantity of goods and services produced, or with changes in their price. Real GDP, however, 'adjusts' nominal GDP to account for shifts in the level of prices, using prices from a base year. This calibration helps us to get a clearer picture of how economies grow by unbundling shifts in the level of output from shifts in the level of prices. Thus, whereas nominal GDP measures what is going on in the market right now, real GDP allows for a far more realistic picture of what is going on in the economy right now, in terms of the amount of output, not its value.

Dragoi (2020) defines economic growth as an expansion in the volume of goods and services produced and consumed in a country's economy over a period. Quality improvements in education, or more advanced technologies, or more value added to the goods and services in each sector of the economy are just a few ways that growth can take place. Educational advancement, for example, can create a more skilled and productive labor force, which in turn promotes productivity and innovation. Similarly, technological innovations can reduce production time, costs, and create new products or services. When economists speak of economic growth, they don't mean something like a temporary stimulus, but an ongoing and sustained increase in productive activities in the indefinite long run. That requires that, for growth to be meaningful, there must be a prolonged period of increases in the economy's output. Economic growth, and the societal development that is its accompaniment, demands a complex approach to organizing tasks in which myriad large and complex agents must interact, cooperate and specialize in labor (Wang, 2019). Most of all, the academic solution to sustainable economic development is integrated action across sectors, industries and levels of government. This coordination enables efficient resource allocation, innovation in mutually reinforcing terms, and exploitation of comparative advantage of specialization of labor.

Theoretical Framework

This study adopted flight to safety theory, it is a widely recognized financial phenomenon, particularly emphasized during periods of economic turmoil such as the 2008 financial crisis. Lehnert (2022) defines Flight-To-Safety (FTS) as a financial market phenomenon in which investors shift away from perceived high-risk assets, such as equities, in favor of safer investments like bonds or gold, typically in response to economic uncertainty or

market instability. This theory, developed over time by various economists and financial analysts, posits that investors prefer to move their capital from riskier assets to safer ones during times of uncertainty (Aslanidis et al., 2020). The key tenets of the theory include risk aversion, capital flight, market reaction to instability, and the pronounced impact on emerging markets.

Applying the flight to safety theory to the context of security challenges and Foreign Direct Investment (FDI) in Nigeria reveals several critical insights. Nigeria faces significant security challenges, including violence from groups like Boko Haram, widespread banditry, high rates of kidnappings, and political instability. These factors collectively create an environment perceived as high-risk by foreign investors. According to the theory, during times of heightened risk, investors are inclined to withdraw their investments from unstable regions and seek safer havens. In Nigeria, this means a reduction in FDI inflows as investors divert their capital to more stable and secure environments. This capital flight is exacerbated by the cost implications of mitigating risks, such as increased spending on security measures and insurance premiums for businesses operating in Nigeria. The reduction in FDI due to security concerns has significant implications for Nigeria's economic growth. FDI is a vital source of capital, technology transfer, and job creation, all of which are essential for economic development. When investors pull out or reduce their investments, the country experiences a slowdown in economic activities, reduced job opportunities, and lower overall economic growth. Additionally, capital flight can lead to economic volatility, causing fluctuations in exchange rates and inflation, further destabilizing the economy.

Security Challenges in Nigeria: An Investor's Concern

Nigeria's security challenges present a complex and complicated problem that has far-reaching consequences for its economic landscape. The country faces a range of security issues, from insurgency and terrorism to organized crime and local conflicts. These challenges not only undermine national stability but also create a precarious environment for foreign investors. As Nigeria strives to attract and retain Foreign Direct Investment (FDI), the persistent security threats pose significant obstacles, deterring potential investors and complicating efforts to foster sustainable economic growth. The primary security issues include:

Insurgency and Terrorism: The Boko Haram insurgency in Nigeria's North-East has emerged as one of the most formidable and persistent security threats in the region. Since its emergence in 2009, the extremist group has been responsible for a series of brutal attacks that have resulted in significant loss of life and extensive property damage. Boko Haram's violent campaign has profoundly affected the socio-economic fabric of the North-East, leading to widespread displacement of individuals and families.



Figure 1. Boko Haram Militants Group
Source: The James Town Foundation (Zenn, 2024)

According to the Hanna et al. (2021), the insurgency has displaced millions of people, causing a humanitarian crisis of immense proportions. The impact of Boko Haram's activities extends beyond immediate humanitarian concerns. The group's relentless violence has severely disrupted economic activities in the North-East, creating an environment that is highly unfavorable for investment (Chukwu et al., 2022). According to Yusuf & Mohd (2023), the region has experienced a sharp decline in economic productivity due to the frequent attacks on infrastructure, businesses, and markets. This instability has deterred both local and foreign investors, who perceive the region as too risky for economic engagement. Consequently, the economic potential of the North-East remains underutilized, exacerbating the challenges faced by its residents and hindering the overall development of the region. In addition to the direct consequences of violence, the Boko Haram insurgency has also led to a significant increase in the cost of security and humanitarian AID. Governments and international organizations have had to allocate substantial resources to address the security situation and provide relief to affected populations. This redirection of resources further strains the region's economy and undermines efforts to foster sustainable development. Efforts to combat Boko Haram have been met with varying degrees of success, and the insurgency continues to pose a significant challenge to peace and stability in the North-East. Addressing this issue requires a comprehensive approach that includes not only military and security measures but also initiatives aimed at addressing the root causes of extremism, such as poverty, unemployment, and lack of educational opportunities. Furthermore, rebuilding the region's economic infrastructure and restoring investor confidence are critical steps toward achieving long-term stability and development.

Ethnic and Religious Conflicts: Nigeria is a multi-ethnic and multi-religious country, and tensions between different ethnic and religious groups have often led to violent conflicts (Okibe, 2022). This pluralism, while a source of cultural wealth, has also given rise to significant challenges, particularly in the form of ethnic and religious conflicts. These conflicts, according to Raleigh (2022), have often resulted in violent confrontations, which are notably prevalent in regions such as the Middle Belt and parts of Northern Nigeria. The underlying causes of these conflicts are numerous. Ethnic and religious differences can be exacerbated by competition for resources, political manipulation, historical grievances, and socio-economic disparities. In many cases, these tensions are further inflamed by issues such as land disputes, economic marginalization, and unequal distribution of power. The consequences of such conflicts are profound. They contribute to an environment of instability and insecurity, which has far-reaching implications for the country's development and economic growth (Jegede, 2019). The persistent violence and unrest create a sense of uncertainty, which deters both domestic and foreign investors. Investors are typically wary of entering markets where there is a high risk of disruption, which can lead to significant financial losses, damage to assets, and overall uncertainty about the safety of their investments.

Militancy in the Niger Delta: The Niger Delta region of Nigeria, a key area due to its substantial oil and gas reserves, has long been plagued by militant activities, which have significant implications for the nation's economy and foreign investment climate (Aniche, 2019). This region, encompassing states like Delta, Bayelsa, Rivers, and Akwa Ibom, is vital for Nigeria's oil production, contributing a significant portion of the country's revenue from petroleum exports. Over the years, various militant groups have emerged in the Niger Delta, driven by grievances related to environmental degradation, economic marginalization, and political neglect. One prominent group, the Niger Delta Avengers (NDA), has been particularly active. The NDA and similar groups have engaged in sabotage operations, including attacks on oil pipelines, facilities, and other critical infrastructure. These actions have resulted in severe

disruptions in oil production, leading to decreased output and increased operational costs for oil companies.



Figure 2. Niger Delta Militant Group
Source: Bloomberg (Clowes & Ejimofor, 2021)

The impact of this militancy extends beyond the immediate disruption of oil production. The persistent instability in the Niger Delta creates an unpredictable investment environment, deterring foreign investors who are concerned about the security of their investments and the potential for financial losses (Komolafe, 2023; Nwankwor & Nkechukwu, 2023). This instability affects not only the oil and gas sector but also the broader economic landscape, as Foreign Direct Investment (FDI) is crucial for economic growth and development.

Kidnappings and Violent Crimes: Kidnapping for ransom has emerged as a significant security challenge in Nigeria, affecting various sectors of society and significantly impacting foreign investment. This criminal activity has seen a troubling rise across the country, with perpetrators often targeting both local and foreign nationals.



Figure 3. Kidnapped Foreign Nationals
Source: Punch Newspapers (Ayeni, 2024).

The high-profile nature of these kidnappings and the violence associated with them create a pervasive sense of insecurity. Foreign investors, in particular, are frequently targeted, leading to heightened fears and concerns about safety. This not only disrupts their business operations but also deters potential investors from entering the Nigerian market, thus stifling economic growth and development (Ede & Okafor, 2022). In addition to kidnappings, Nigeria grapples with various forms of violent crime, including armed robbery and banditry. Armed robbery,

characterized by violent theft often involving firearms, poses a severe threat to businesses and individuals alike. Banditry, which involves organized groups engaging in violent acts to achieve economic gain or exert control, further aggravates the security situation. These violent crimes not only endanger lives and property but also contribute to an overall climate of fear and instability. The cumulative effect of these security issues is a detrimental impact on Nigeria's economic environment. The increased risk associated with violent crime and kidnapping creates substantial barriers to investment and economic growth, as businesses and investors weigh the potential risks against the benefits of operating in such a volatile environment (Obi et al., 2022).

Herdsmen-Farmer Conflicts: The conflicts between nomadic herdsmen and local farmers over grazing land and water resources have escalated into significant violence, particularly affecting the Middle Belt region of Nigeria (Bello & Abdullahi, 2021). These clashes arise due to competing needs for arable land and water, which are crucial for both agricultural production and livestock rearing. As herdsmen move their cattle in search of pasture and water, they often encroach on farmland, leading to disputes and sometimes violent confrontations with local farmers who rely on these lands for cultivating crops. The impact of these conflicts is numerous. Firstly, violence disrupts agricultural activities by damaging crops and property, which in turn affects food security and livelihoods of farmers. Farmers face losses in their crops and sometimes even in their lives, resulting in reduced agricultural output and income. The conflict also undermines rural investments, as the instability makes it risky for investors to engage in agricultural ventures or infrastructure development in affected areas. This instability further discourages both local and foreign investments, impeding economic growth and development in these regions. The conflicts contribute to broader social and economic issues, including displacement of communities, disruption of local markets, and heightened ethnic tensions. Efforts to resolve these disputes often involve complex negotiations and interventions by government and non-governmental organizations, but achieving sustainable solutions remains a challenging task.

Implications of security challenges on Economic Growth in Nigeria

The pervasive security challenges in Nigeria significantly impacts economic growth. Persistent threats, such as insurgencies and kidnappings, deter foreign investment, raise operational costs, and disrupt supply chains. These security issues also negatively affect tourism, strain government resources, and impede infrastructure development. Moreover, they diminish consumer confidence, discourage local entrepreneurship, and lower property values. Addressing these security concerns is essential for fostering a stable environment that supports sustainable economic development and growth.

Security concerns significantly diminish investor confidence in Nigeria. When a country faces high levels of security threats—such as terrorism, armed conflicts, or civil unrest—potential investors often view it as a risky environment. This perception of high-risk stems from the potential for loss of investments, operational disruptions, and personal safety threats (Ushahemba et al., 2023; Okpe et al., 2024). As a result, investors may hesitate to commit their capital to Nigeria, opting instead for more stable and secure markets. This reluctance can manifest in various ways, including reduced Foreign Direct Investment (FDI) inflows and a more cautious approach from both domestic and international investors. The decline in investor confidence not only affects the immediate flow of capital but also impacts long-term economic prospects. The reduced capital inflow limits the funds available for critical economic development projects, such as infrastructure, education, and healthcare. This scarcity of investment can stifle economic growth, hinder job creation, and perpetuate a cycle of

underdevelopment. Consequently, the overall economic progress of Nigeria is constrained, affecting its ability to achieve sustainable development and improve the living standards of its population.

Security threats significantly escalate the cost of doing business in Nigeria, posing a substantial challenge for both domestic and foreign investors. Companies are compelled to allocate considerable resources to safeguard their operations, which directly impacts their financial performance (Yusuf & Mohd, 2023). Firstly, the necessity for enhanced security measures leads businesses to invest heavily in various protective services. Hiring private security personnel becomes a standard practice to ensure the safety of physical assets, employees, and operational facilities. This requirement not only involves the direct cost of security staff salaries but also the expenses associated with training, equipping, and managing these personnel. In addition to manpower, companies must also invest in advanced surveillance systems. The installation of high-tech security cameras, alarm systems, and access control mechanisms is essential to monitor and protect business premises from potential threats. These systems require substantial upfront capital investment and ongoing maintenance costs. Moreover, businesses are often required to purchase comprehensive insurance policies to protect against potential security-related losses, such as theft, vandalism, or damage due to civil unrest. Insurance premiums can be significantly high, reflecting the increased risk associated with operating in a security-challenged environment. The cumulative effect of these added security costs can have a detrimental impact on a company's financial health. The increased expenditure can lead to higher operational costs, which, in turn, may reduce profit margins. For some businesses, these financial burdens can outweigh potential returns on investment, making Nigeria a less attractive destination for new investments.

Insecurity significantly disrupts economic activities, particularly in regions directly affected by conflict and violence. For instance, the Boko Haram insurgency in Nigeria's North-East has caused widespread devastation in the agricultural sector (Hanna et al., 2021). Farmers in this region face constant threats, which disrupt planting and harvesting cycles, reduce agricultural output, and displace communities. This disruption has exacerbated food insecurity, leading to higher food prices and increased reliance on humanitarian AID. The consequent economic stagnation not only impairs the livelihood of local farmers but also affects the broader regional economy through reduced trade and investment.

Insecurity significantly exacerbates the phenomenon of brain drain, wherein skilled professionals and highly educated individuals migrate from their home country in search of more stable and secure environments (Osigbesan, 2021; Ogbenika, 2019). This migration is often driven by the immediate threat to personal safety and the lack of conducive conditions for professional growth and development. As these individuals relocate to countries with better security, more favorable working conditions, and greater opportunities, the home country experiences a substantial loss of human capital.

Persistent security issues in Nigeria significantly impact the country's international reputation, leading to a negative perception among potential investors. Security concerns, such as frequent incidents of terrorism, kidnapping, and communal violence, contribute to a portrayal of Nigeria as a high-risk investment environment (Danjuma, 2021). This negative image is not easily remedied and can linger long after security situations improve. Investors typically seek stability and predictability when making long-term investment decisions. A country plagued by security challenges is often seen as a volatile and unstable environment, which raises the perceived risk of investing there. As a result, potential investors may choose to redirect their investments to more stable regions with fewer security concerns. This reluctance can lead to missed opportunities for economic growth and development in Nigeria,

as the inflow of Foreign Direct Investment (FDI) becomes limited. The negative perception can also affect the country's ability to attract other forms of investment, including partnerships, joint ventures, and international business collaborations. The long-term impact of this reputation can hinder Nigeria's economic growth prospects, as it struggles to overcome the legacy of insecurity and rebuild investor confidence.

Security challenges in Nigeria can have a profound impact on its foreign relations, influencing how other countries and international organizations interact with it (Abdullahi & Emmanuel O, 2023). Persistent security issues such as terrorism, insurgency, or civil unrest often draw the concern of international partners. In response, these partners may impose diplomatic pressures or sanctions intended to influence Nigeria's handling of its security situation (Gulbi & Ahmed, 2024). Such diplomatic pressures can lead to various forms of economic and political repercussions. For instance, other countries might impose trade restrictions or reduce their economic AID to Nigeria, affecting its ability to fund development projects and support economic growth. Additionally, international investors may become wary of Nigeria's security environment, leading to a decrease in foreign direct investment, which is crucial for the country's economic stability and expansion. Nigeria's security situation can attract increased scrutiny from international organizations and foreign governments, potentially affecting its diplomatic standing and international cooperation. While some international actors may offer support to help address the underlying security issues, this assistance might come with conditions or influence over Nigeria's policies, impacting its autonomy.

RESEARCH METHOD

This study employs a content analysis approach to examine the effects of security threats on Foreign Direct Investment (FDI) in Nigeria. Specifically, it adopts a combination of conceptual and relational analysis. Conceptual analysis identifies recurring themes related to security challenges—such as insurgency, militancy, kidnapping, and communal conflicts—while relational analysis explores the connections between these threats and trends in FDI inflows. A purposive sampling method was used to select policy documents, academic papers, news reports, and reports from international organizations such as the World Bank and UNCTAD. The selection criteria focused on sources published between 2019 and 2024, ensuring relevance to Nigeria's security and investment climate. The study prioritized sources that provide empirical insights, policy discussions, and economic data related to security risks and FDI trends. For data analysis, the study applies thematic and discourse analysis. Thematic analysis was used to categorize key security threats and their economic consequences, while discourse analysis examined how different stakeholders—including government agencies, investors, and media—frame the relationship between security risks and investment decisions. To enhance reliability, findings were cross verified across multiple sources, ensuring a comprehensive assessment of the impact of security threats on FDI in Nigeria.

RESULTS AND DISCUSSION

Security challenges in Nigeria, including terrorism, political violence, kidnappings, and religious conflict, have been significant drivers of the investment climate in Nigeria. Evidence from studies by Okpe et al. (2024) shows that there is a negative long-run relationship between security threats and Foreign Direct Investment (FDI). Using the Vector Error Correction Model (VECM), their findings reveal that domestic investment is not seriously affected in the short run but that security threats negatively influence long run economic growth and investor

confidence. Similarly, Danjuma (2021) examined sectoral FDI inflows and reasoned that market size and trade openness are the prime determinants of investment. Terrorism, political violence, and religious tensions, nevertheless, negatively affect investment in key sectors such as banking, construction, and manufacturing. The study underscores that although economic factors such as GDP growth and trade openness play a role in FDI attraction, security concerns are a strong disincentive.

Danjuma (2021) investigates the impact of terrorism, political violence, corruption, and religious tension on FDI inflows across key sectors in Nigeria, including banking, construction, manufacturing, oil and gas, and telecommunications. Using the Fully Modified Ordinary Least Squares (FMOLS) technique, the study analyzes data from 2008 Q1 to 2017 Q4. The findings reveal that:

Banking Sector: Real GDP growth and trade openness positively influence FDI inflows, while terrorism, political violence, and religious tension have a significant negative impact. Infrastructure and corruption appear to have no substantial effect on investment in this sector.

Construction Sector: Economic growth and trade openness drive FDI inflows, but paradoxically, infrastructure development reduces FDI as investors perceive fewer opportunities for expansion. Terrorism negatively affects investment, while political violence, corruption, and religious tension do not show significant influence.

Manufacturing Sector: FDI inflows respond positively to market size and trade openness, reinforcing the idea that economic expansion and international integration attract investment. However, terrorism remains a major deterrent, discouraging foreign investors from engaging in the sector. Unlike the banking and construction sectors, political violence, corruption, and religious tension do not significantly affect FDI inflows.

Analysis of FDI Inflows and Security Challenges (2010 - 2024)

An examination of Nigeria's net inflows of FDI between 2010 and 2023 indicates high volatility, with sharp declines in periods of higher security risks. World Bank (2023) evidence indicates a decline from \$8.59 billion in 2010 to \$4.13 billion in 2014, which coincided with the eruption of the Boko Haram rebellion and higher security concerns. In 2015-2019, volatility was sustained with a sharp fall in 2016 (\$1.02 billion) due to an economic slowdown and worsening security, followed by a temporary revival in 2017 (\$3.49 billion) reflecting short-term gains through policy reforms in the economy. From 2020 to 2023, there was a reduction in FDI inflows triggered by the COVID-19 pandemic and the escalation of security concerns. The steep plunges in 2022 (\$1.57 billion) and 2023 (\$1.32 billion) reflect persistent security risks, policy uncertainty, and negative investor attitudes.

Table 1. Foreign Direct Investment, Net Inflows in Nigeria (BoP, Current US\$)

S/N	Year	Net Inflows (USD)	Percentage Change (%)
1	2010	8,591,410,000	-
2	2011	8,989,110,000	4.6
3	2012	7,051,410,000	-21.6
4	2013	5,654,410,000	-19.8
5	2014	4,138,990,000	-26.8
6	2015	3,060,990,000	-26.0
7	2016	1,027,110,000	-66.4
8	2017	3,498,990,000	240.7
9	2018	3,302,990,000	-5.6
10	2019	3,319,990,000	0.5
11	2020	1,140,990,000	-65.6
12	2021	4,795,990,000	320.3
13	2022	1,577,110,000	-67.1

14	2023	1,321,110,000	-16.2
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Sources: World Bank (2023)

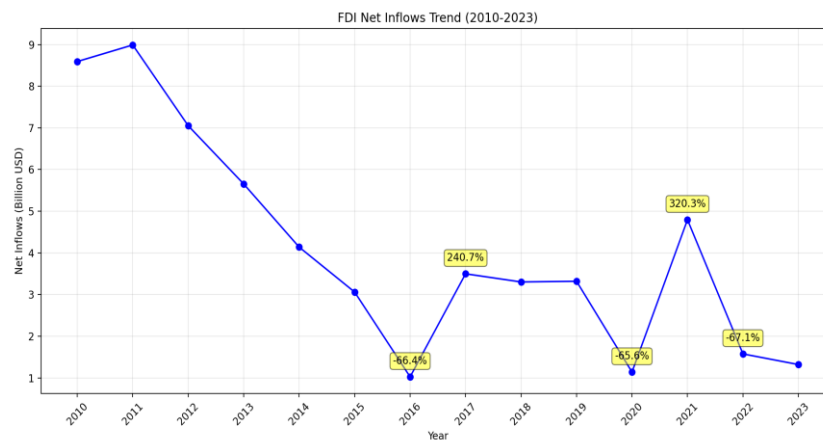


Figure 4. FDI Inflows Trend (2010-2023)

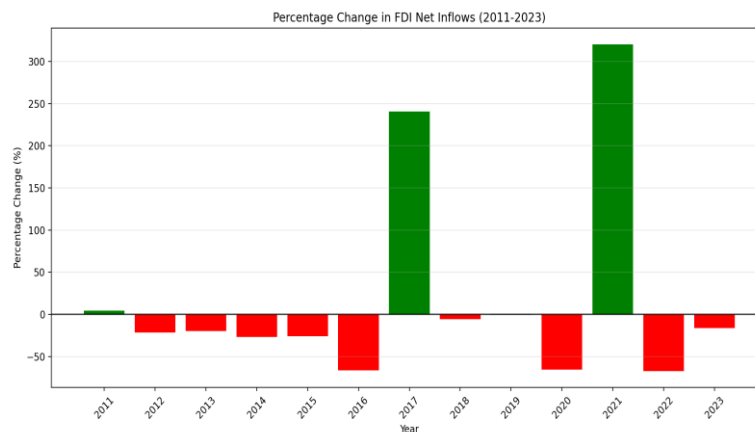


Figure 5. Percentage Change in FDI Net Inflows (2011-2023)

The table above clearly indicates Nigeria's net FDI inflows between 2010 and 2023, with large fluctuations and periods of high volatility. Years like 2016, 2017, 2020, 2021, and 2022 experienced steep reversals of over 50%, which validates the volatility of investment flows in the country. Over the long term, FDI inflows have declined, as indicated by a negative Compound Annual Growth Rate (CAGR) of -13.41%. Although there have been periodic peaks, the general trend indicates a declining path. A closer examination of sub-periods indicates that between 2010 and 2014, the CAGR was -13.59%, indicating a steep fall, whereas 2015 to 2019 witnessed a gradual recovery with a growth rate of 1.64%. This indicates that the decline in FDI was steeper in the initial years but decelerated somewhat before the COVID-19 pandemic. The impact of COVID-19 on foreign investment is best viewed when comparing pre-pandemic and post-pandemic FDI inflows. Before the pandemic, Nigeria averaged \$4.86 billion yearly but fell by 54.6% to \$2.21 billion in the post-pandemic era.

This reflects the global economic disturbance due to the pandemic, domestic policy, and economic change in Nigeria that might have affected investor confidence. Understanding these trends is vital to inform policies that can help restore stability and long-term foreign investment. The use of trend lines and bar charts strengthens the argument by visually emphasizing fluctuations and pinpointing years of extreme changes.

CONCLUSION

This study examined the impact of security challenges on Foreign Direct Investment (FDI) inflows in Nigeria from 2010 to 2024, focusing on the adverse effects of terrorism, political violence, kidnapping, and religious conflicts. The research sought to determine how these security threats influence investor confidence and economic growth. The findings reveal a persistent decline in FDI inflows due to security challenges, despite Nigeria's economic potential. Key insights include: FDI inflows have exhibited high volatility, with sharp declines during periods of intensified security threats. The banking, construction, and manufacturing sectors have been severely affected, as investors perceive high risks associated with political instability and violence. Trade openness and market size remain critical factors attracting FDI, but their positive effects are undermined by security concerns. This study contributes to the broader literature on investment and security by reinforcing the theory that stable economic and political environments are prerequisites for sustained FDI inflows. The findings align with prior research indicating that insecurity weakens investor confidence, limiting the effectiveness of traditional economic growth drives such as trade openness and market size. The study highlights the need for businesses and investors to adopt risk mitigation strategies when operating in Nigeria. Companies must integrate security risk assessments into their investment decisions, while local enterprises should engage in public-private partnerships to enhance security infrastructure and investment protection. The findings underscore the necessity for comprehensive security and economic reforms to restore investor confidence.

RECOMMENDATIONS

Nigeria's security challenges need to be sorted out, if only to create a conducive environment for economic growth, but also to attract Foreign Direct Investment (FDI). The following are some suggestions that could help to minimize the effects of security issues and make Nigeria more attractive to investors:

1. Strengthening national security through enhanced intelligence-sharing and community policing.
2. Improving the ease of doing business by reducing bureaucratic inefficiencies and offering investment incentives.
3. Promoting macroeconomic stability and political reforms to reduce uncertainty and policy inconsistencies.

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THE IMPACT OF WORKING CAPITAL MANAGEMENT AND COVID-19 ON THE PROFITABILITY OF COMPANIES IN INDONESIA

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ABSTRACT

This research examines the impact of working capital management and the COVID-19 pandemic on the profitability of Indonesian companies listed on the Indonesia Stock Exchange from 2013 to 2022, excluding financial firms. Using panel regression with a fixed effects model, the findings reveal that cash conversion cycle management and firm size significantly influence profitability, both in terms of ROA and ROE. Efficient cash conversion cycle management enhances profitability by reducing the time needed to convert inventory investments into cash, while larger firms benefit from economies of scale and greater market access. Additionally, accounts receivable management, current ratio, and leverage significantly affect ROA, whereas inventory management, current assets, and the COVID-19 pandemic show no significant impact. For ROE, only cash conversion cycle and firm size have a significant influence. These results highlight the importance of effective working capital management strategies to enhance corporate profitability.

Keywords: Working Capital Management; Profitability; COVID-19

INTRODUCTION

In today's increasingly complex and dynamic business landscape, managing working capital and ensuring corporate profitability have become critical concerns that demand careful attention from decision-makers. Effective working capital management is essential in corporate finance, as it focuses on optimizing short-term assets and liabilities. This involves strategic management of inventory, receivables, and payables to ensure optimal liquidity and operational efficiency. Corporate profitability, conversely, is a fundamental metric used to assess a company's financial performance, reflecting its capacity to generate profits from its operational activities.

Given the continually evolving global economy, the challenges associated with managing working capital and maintaining profitability have become more intricate, particularly in light of fluctuating economic and industrial conditions. Effective management of working capital is instrumental in maximizing asset utilization and optimizing liquidity, thereby potentially enhancing profitability. Although working capital management is vital, its effect on corporate profitability, particularly amid shifting economic and industrial conditions, remains an area that requires further scholarly exploration.

Prior research, including studies by Supriyadi (2023), Sany et al. (2023), and Satoto et al. (2022), has highlighted the intricate connection between working capital management and corporate profitability. Nevertheless, there remains ongoing debate and uncertainty regarding the degree of this relationship and the factors influencing it. In response to these research gaps, this study aims to explore the relationship between working capital management and corporate profitability, providing insights into the key factors that influence this relationship.

The COVID-19 pandemic has severely disrupted the financial stability of businesses globally. The imposition of restrictions to curb the spread of the virus has led to significant supply chain disruptions, threatening the viability of both large and small enterprises worldwide (Olowookere et al., 2022). The increasing financial strain brought about by COVID-19 has drawn the attention of accountants, economists, financial experts, and academics worldwide. This unprecedented financial exclusion has compelled managers to devise strategies to mitigate the financial impact of COVID-19, with working capital management emerging as a key strategy. The effective management of working capital is a critical indicator of a company's ability to weather financial crises, influencing its current assets, short-term liabilities, revenue growth, and operating cost management (Zimon & Dankiewicz, 2020; Olowookere et al., 2022). It involves the strategic planning and management of current assets and liabilities to minimize the risk of failing to fulfill short-term obligations while preventing excessive investment in these assets.

Between 2012 and 2022, companies listed on the Indonesia Stock Exchange (IDX) faced a complex array of economic, industrial, and external factors that impacted their working capital management and profitability. In terms of economic growth, Indonesia experienced fluctuating GDP (Gross Domestic Product) growth rates during this period. Based on data from the Central Statistics Agency (BPS), Indonesia's economic growth reached its highest point at 6.2% in 2012, but subsequently decelerated to around 5% in the following years, before plummeting to 4.5% in 2020 due to the COVID-19 pandemic. Economic recovery began thereafter, with growth reaching 5.07% in 2021 and projected to rise to 5.4% in 2022 (Badan Pusat Statistik, 2022).

This research contributes to the existing literature by providing a detailed analysis of the transformative impact of the COVID-19 pandemic on corporate working capital management and its direct implications for corporate profitability, offering practical implications for

financial decision-makers and practitioners seeking to navigate complex external environments.

Driven by this insight, the researcher embarks on a study titled “The impact of working capital management and COVID-19 on the profitability of companies in Indonesia” which explores the financial performance of companies listed on the IDX between 2013 and 2022, shedding light on the interplay between working capital management, COVID-19, and corporate profitability. Based on the background, the research questions are formulated as follows:

1. Does inventory management affect a company's profitability?
2. Does accounts receivable affect a company's profitability?
3. Does accounts payable affect a company's profitability?
4. Does the cash conversion cycle affect a company's profitability?
5. Does the COVID-19 pandemic affect a company's profitability?

LITERATURE REVIEW

Working Capital Management

Effective working capital management encompasses the management of inventory, accounts payable, accounts receivable, and the cash conversion cycle (Aminu & Zainudin, 2015). Effective working capital management includes overseeing inventory, accounts payable, accounts receivable, and the cash conversion cycle. Various studies have identified key factors influencing the effectiveness of a company's working capital management.

Working capital management is influenced by several important factors, including liquidity, company size, credit policy, and payment policy. Liquidity denotes a company's capacity to fulfill its short-term obligations. Companies with good liquidity levels are generally better able to manage their working capital effectively, which positively impacts their profitability. Additionally, company size plays a significant role in working capital management. Larger companies typically have better access to resources and can obtain more favorable credit terms from suppliers. Research by Aktas et al. (2018) suggests that larger companies are more efficient in managing their working capital, which, in turn, enhances company value.

The credit policies implemented by a company also have a significant impact on accounts receivable and the cash conversion cycle. Companies with strict credit policies tend to have lower accounts receivable, ultimately increasing liquidity and profitability. Aminu & Zainudin (2015) assert that a good credit policy is crucial for effectively managing accounts receivable. Furthermore, the payment policy relates to how a company manages its payable accounts and short-term liabilities. Companies that can take advantage of early payment discounts can reduce costs and increase profitability. These factors collectively play a vital role in determining the effectiveness of working capital management within a company.

Amponsah-Kwatiah & Asiamah (2020) argues that, working capital measurement comprises multiple key elements, among which inventory management plays a vital role in evaluating the company's inventory management efficiency. Accounts receivable help in understanding how quickly the company can collect its receivables. Accounts payable reflect the speed at which a company settles its obligations to suppliers. The cash conversion cycle quantifies the duration needed to transform investments in inventory and receivables into cash. This cycle helps assess the operational efficiency of the company in managing its working capital. The current ratio is a key metric that evaluates the relationship between current assets and current liabilities. It plays a crucial role in assessing a company's liquidity and its capacity

to fulfill short-term obligations. Additionally, current assets are measured as the ratio of current assets to total assets, reflecting the proportion of current assets in relation to the company's overall assets. Firm size is calculated using the natural logarithm of total assets, offering a gauge of the company's operational capacity. Finally, leverage is measured by the ratio of long-term debt to assets, indicating the degree of debt utilization in the company's capital structure.

Inventory Management

Inventory management is the process of managing goods that are stored for sale or used in production. Excessive inventory can tie up capital that could otherwise be used for other investments, while insufficient inventory can lead to shortages of goods for sale or production. Research shows that effective inventory management is a critical prerequisite for a company's financial success, as it can reduce storage costs and prevent stockouts (Ghosh & Maji, 2004). Companies that manage their inventory efficiently tend to have higher profitability. Good inventory management allows companies to maintain optimal inventory levels, reduce storage costs, and improve liquidity. Efficiency in inventory management can also prevent loss of sales and customer dissatisfaction.

The inventory turnover ratio, which is computed by dividing COGS by average inventory, serves as a key performance indicator (KPI) for evaluating a company's inventory management. A higher ratio indicates efficient inventory management, with rapid inventory turnover, whereas a lower ratio may signal inventory management inefficiencies.

Studies have demonstrated that inventory turnover plays a crucial role in driving profitability, with effective inventory management exhibiting a strong positive relationship with Return on Assets (ROA) and Return on Equity (ROE). By improving efficiency in inventory management, companies can reduce storage costs and avoid stockouts that disrupt production and sales. This efficiency contributes to increased profitability and competitiveness in the market (Amponsah-Kwatiah & Asiamah, 2020).

Accounts Receivable

Accounts receivable represents the company's claims against customers arising from the sale of goods or services on credit. Effective receivables management involves setting appropriate credit policies, continuously monitoring receivables, and efficiently collecting payments. Aminu & Zainudin (2015), Aktas et al. (2018), and Deloof (2003) suggest that efficient receivables management can enhance company profitability by accelerating cash inflows and increasing company value. Their research indicates that companies with shorter collection periods tend to be more profitable.

Effective accounts receivable management is crucial for maintaining the company's liquidity and profitability. This process involves several key steps. First, setting an appropriate credit policy is the foundation of good receivables management, where the company must determine credit terms that align with the risk profile of its customers, including credit limits, payment terms, and payment conditions. Strict credit policies can help reduce the risk of default and increase company liquidity (Aminu & Zainudin, 2015). Next, continuous monitoring of receivables is essential to identify and address payment issues early. Companies should use monitoring systems that enable them to track the status of each receivable and identify overdue accounts. Companies that proactively manage their receivables can improve cash flow and company value (Aktas et al., 2018). Finally, effective receivables collection involves various strategies to ensure that customers pay on time, including sending payment reminders, offering discounts for early payment, and taking legal action if necessary. Companies with shorter

receivables collection periods tend to be more profitable, as this means less capital is tied up in unpaid receivables (Deloof, 2003).

Effective accounts receivable management is a key driver of profitability, with a significant positive impact on Return on Assets (ROA) and Return on Equity (ROE), as evidenced by research in the field. By managing accounts receivable efficiently, companies can accelerate cash inflows, reduce bad debts, and increase profitability (Amponsah-Kwatiah & Asiamah, 2020).

Accounts Payable

The company's accounts payable represent its credit-based liabilities to suppliers for goods or services acquired. Good accounts payable management includes setting efficient payment policies and continuously monitoring these obligations. Paying accounts payable on time allows companies to foster good relationships with suppliers and take advantage of early payment discounts, which can improve profitability (Azam, 2016). Effective accounts payable management can also help companies avoid liquidity issues that could disrupt day-to-day operations.

According to research by Ruhadi et al. (2024), effective accounts payable management are crucial for maintaining the company's liquidity and ensuring smooth operations. This process involves several important considerations, including the establishment of clear payment policies that outline payment terms with suppliers, such as payment deadlines, early payment incentives, and late payment penalties. These policies help companies take advantage of early payment discounts to reduce costs and increase profitability. Next, continuous monitoring of accounts payable is essential to ensure that obligations to suppliers are paid on time, helping to maintain good relationships with suppliers and avoid late payment penalties. Effective monitoring of accounts payable can help companies manage their cash flow better and improve liquidity. Finally, companies should negotiate with suppliers to obtain better credit terms, such as longer payment periods or discounts for early payment. Good negotiations with suppliers can provide greater financial flexibility for the company.

Regarding the impact of accounts payable management on profitability, effective accounts payable management has a significant positive impact on ROA and ROE. By efficiently managing accounts payable, companies can leverage trade credit as a source of short-term financing, reduce financing costs, and increase profitability (Amponsah-Kwatiah & Asiamah, 2020).

Cash Conversion Cycle

The Cash Conversion Cycle (CCC) measures the time it takes for a company to convert its investments in inventory and other assets into cash flow, providing valuable insights into its operational efficiency. This cycle includes the accounts receivable collection period, the inventory holding period, and the accounts payable payment period. According to Richards & Laughlin (1980), a shorter cash conversion cycle indicates better financial health for the company as it shows that the company can quickly convert its investments into cash. A study by Pais & Gama (2015) supports this, showing that a shorter cash conversion cycle is associated with higher profitability.

According to research by Safitri et al. (2022), the cash conversion cycle comprises three key components that significantly impact a company's liquidity and profitability management. Days Sales Outstanding (DSO) is a metric that quantifies the average time it takes for a company to collect payments from customers after completing a sale. Reducing this period enhances liquidity and profitability. The inventory holding period (Days Inventory

Outstanding) calculates the average time taken for a company to sell its inventory. Efficient management reduces storage costs and optimizes cash flow. The accounts payable payment period (Days Payable Outstanding) measures the average time taken for a company to pay suppliers. Companies can improve liquidity by extending this period without damaging supplier relationships, utilizing trade credit as short-term financing.

Regarding the impact of the cash conversion cycle on profitability, CCC has a significant positive impact on ROA and ROE. Effectively managing CCC can accelerate cash inflows, reduce working capital requirements, and increase company profitability (Amponsah-Kwatiah & Asiamah, 2020).

Current Ratio

Sany et al. (2023) The current ratio stands out as a widely employed liquidity metric, calculated by dividing current assets by current liabilities, providing valuable insights into a company's capacity to meet its short-term obligations.

According to research by Aminu & Zainudin (2015), the current ratio is a key indicator of a company's liquidity and financial stability, providing insights into its ability to meet short-term obligations. A high current ratio suggests that the company has ample current assets to offset its current liabilities, reflecting strong liquidity and a reduced risk of financial difficulties.

Regarding the impact of the current ratio on profitability, the current ratio has a significant positive impact on ROA and ROE. A higher current ratio indicates better liquidity, which can enhance a company's financial stability and profitability (Amponsah-Kwatiah & Asiamah, 2020).

Current Assets

Current assets, comprising cash, accounts receivable, inventory, and marketable securities, are readily convertible into cash within a short period, typically one year or less. These assets serve as a key indicator of a company's liquidity, providing valuable insights into its ability to meet short-term obligations. Research by Amponsah-Kwatiah & Asiamah (2020) shows that current assets have a positive and significant impact on the company's profitability, measured by Return on Assets (ROA) dan Return on Equity (ROE). Financial management theory supports the importance of current assets in maintaining financial stability. According to Brigham & Houston (2019), effective management of current assets allows companies to optimize cash use, expedite receivables, and minimize inventory holding costs. Adequate current assets provide flexibility in responding to market changes and managing financial emergencies, facilitating better financial planning and reducing reliance on costly external financing.

Firm Size

Firm size is commonly measured by total assets or annual revenue. Research by Amponsah-Kwatiah & Asiamah (2020) shows that firm size has a positive and significant effect on profitability. Larger companies typically have better access to financial and non-financial resources, which can enhance operational efficiency and competitiveness. Additionally, large firms can benefit from economies of scale, reducing per-unit costs through mass production and bulk purchasing of raw materials. Economies of scale theory supports these findings, indicating that larger firms achieve greater production and distribution efficiency. Baumol et al. (2020) argue that economies of scale enable large firms to spread fixed costs over a greater number of units, reducing average costs and increasing profit

margins. Larger firms also possess greater bargaining power with suppliers and creditors, leading to more favorable payment terms and lower financing costs, contributing to improved ROA and ROE compared to smaller firms.

Leverage

Leverage involves using borrowed funds to finance company assets, typically measured by the debt-to-equity ratio or debt-to-asset ratio. Research by Safitri et al. (2022) pecking order theory suggests that firms prefer to fund investments with internal sources (retained earnings) first, then with debt, and finally with new equity issuance due to higher information costs associated with issuing new shares. Leverage impacts Return on Equity (ROE) because borrowing can enhance equity returns if the company generates higher returns than the cost of debt. However, excessive leverage can threaten financial stability if earnings are insufficient to cover increased debt costs. Ruhadi et al. (2024) emphasizes the importance of leverage in financial performance analysis, noting that while leverage can boost ROE, it must be managed carefully to avoid financial instability.

COVID-19 Pandemic

The COVID-19 pandemic has significantly impacted profitability across various sectors in Indonesia, both positively and negatively, depending on the sector and the company's adaptive strategies. Many sectors experienced severe declines in profitability due to social restrictions and changes in consumer behavior (Pratama et al., 2021), which reported significant declines in the retail sector's financial performance. The aviation sector also faced sharp declines due to travel restrictions and reduced passenger numbers (Hidayat, 2021). Some companies, however, improved their profitability through innovation and rapid adaptation to new conditions. For instance, Esomar & Chritianty (2021) found that service sectors transitioning to digitalization and e-commerce managed to maintain or even enhance profitability during the pandemic. Dewi (2021) observed significant changes in financial ratios in the advertising and media sectors, reflecting adaptations to pandemic challenges. Overall, while the pandemic adversely affected profitability in many sectors, innovative and adaptable companies could navigate the crisis more effectively.

Profitability

Profitability measures the efficiency and effectiveness of management by the extent of profits relative to sales and investments. Basyith & Fitriya (2023) state that profitability reflects how effectively a company uses its assets to generate profits and how well it provides returns to shareholders. Effective working capital management, including cash conversion cycle and working capital investment strategies, positively influences ROA and ROE. Ruhadi et al. (2024) demonstrate that good working capital management enhances profitability and efficiency in asset and capital management, leading to higher returns for shareholders. Basyith & Fitriya (2023), Safitri et al. (2022), and Ruhadi et al. (2024) use ROA and ROE as profitability indicators, offering a comprehensive view of financial performance. ROA measures the efficiency of asset use in generating profits, while ROE reflects returns on shareholder equity. Effective working capital management contributes to improved ROA and ROE by reducing costs and increasing operational profits.

RESEARCH METHOD

Data

The study focuses on all companies listed on the Indonesia Stock Exchange (IDX), excluding financial institutions due to their unique accounting practices, totalling 413 companies. Data from S&P Capital IQ covering 2013–2022 resulted in a sample of 4,130 observations, deemed representative for financial performance analysis.

Independent variables include working capital management (inventory, accounts receivable, accounts payable, cash conversion cycle) and the COVID-19 pandemic (dummy variable for 2019–2022). Dependent variables are profitability measures, Return on Assets (ROA) and Return on Equity (ROE). Two static panel models, fixed effects and random effects, are used to assess the impact of these variables over time.

Fixed Effects Model

This model is used to control for company-specific effects that are unobservable and constant over the study period. It allows the researcher to identify and measure the impact of independent variables on the dependent variables by eliminating inter-company variability. The formula for the fixed effects model is as follows:

$$ROA_{it} = \alpha_i + \beta_0 + \beta_1 IM_{it} + \beta_2 ACCR_{it} + \beta_3 ACCP_{it} + \beta_4 CCC_{it} + \beta_5 COV_{it} + \beta_6 CR_{it} + \beta_7 CAT_{it} + \beta_8 FSIZE_{it} + \beta_9 LEV_{it} + \varepsilon_{it}$$

$$ROE_{it} = \alpha_i + \beta_0 + \beta_1 IM_{it} + \beta_2 ACCR_{it} + \beta_3 ACCP_{it} + \beta_4 CCC_{it} + \beta_5 COV_{it} + \beta_6 CR_{it} + \beta_7 CAT_{it} + \beta_8 FSIZE_{it} + \beta_9 LEV_{it} + \varepsilon_{it}$$

Where:

- ROA_{it} is Return on Assets
- ROE_{it} is Return on Assets
- α_i = Company-specific fixed effect
- β_0 = Constant
- β_1 to β_8 = Regression coefficients for independent variables
- IM = Inventory management
- $ACCR$ = Accounts receivable
- $ACCP$ = Accounts payable
- CCC = Cash conversion cycle
- $COVID$ = COVID19
- CR = Current ratio
- CAT = Current assets to total assets ratio
- $FSIZE$ = Firm size
- LEV = Firm size
- ε_{it} = Residual error

Random Effects Model

The random effects model assumes that the differences among companies are random and not correlated with the independent variables. This model captures unobservable inter-company variability that might affect the research outcomes. The formula for the random effects model is as follows:

$$ROA_{it} = \beta_0 + \beta_1 IM_{it} + \beta_2 ACCR_{it} + \beta_3 ACCP_{it} + \beta_4 CCC_{it} + \beta_5 COV_{it} + \beta_6 CR_{it} + \beta_7 CAT_{it} + \beta_8 FSIZE_{it} + \beta_9 LEV_{it} + \mu_{it} + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 IM_{it} + \beta_2 ACCR_{it} + \beta_3 ACCP_{it} + \beta_4 CCC_{it} + \beta_5 COV_{it} + \beta_6 CR_{it} + \beta_7 CAT_{it} + \beta_8 FSIZE_{it} + \beta_9 LEV_{it} + \mu_{it} + \varepsilon_{it}$$

Where:

- μ_{it} = Company-specific random error
- Other variables are the same as in the fixed effects model.

RESULTS AND DISCUSSION

Descriptive Statistic

A summary of the descriptive statistics for each variable in this study is provided in the table below:

Table 1. Descriptive Statistic

Variable	Mean	Std. Dev.	Min	Max	Observ
ROA	2.41	5.57	-16.04	25.89	4,130
ROE	4.66	30.33	-122.33	167.77	4,130
IM	7086.19	43417.25	0	373600	4,130
ACCR	2741.55	14801.92	0	109978.8	4,130
ACCP	2409.92	12820.08	0	100763.3	4,130
CCC	141.98	435.2	-168.06	3193.04	4,130
CR	1.61	2.73	0	17.96	4,130
CAT	22.99	110.13	0	727	4,130
FSIZE	8.13	5.27	0	14.7	4,130
LEV	5.44	30.64	0	232.55	4,130
COVID	0.3	0.46	0	1	4,130

Hausman Test

The table below displays the results of Hausman Test in this study:

Table 2. Hausman Test

Variable Dependent	Chi-Square Statistic	Degrees of Freedom (df)	Prob > Chi2
ROA	28.85	6	0.0001
ROE	32.12	6	0.0000

Prob > Chi2 value is less than 0.05. Based on the results, the fixed-effects model is a better fit than the random-effects model. The fixed-effects model was chosen because it can control unobserved individual effects and provides more accurate and unbiased estimates. Thus, the use of the fixed-effects model in this research can provide deeper insight into the influence of independent variables on company profitability in Indonesia.

Chow Test

The table below displays the result of Chow Test in this study:

Table 3. Chow Test

Metric	ROA	ROE
Chi-squared	1926.2	577.38
P-value	0.0000	0.0000

The chow test results for ROA and ROE show highly significant outcomes, with chi-squared values of 1926.20 and 577.38, and p-values of 0.0000 for both. This indicates that the Fixed Effects (FE) model is more appropriate than the Ordinary Least Squares (OLS) model for analyzing ROA and ROE. The FE model provides more consistent and reliable estimates by addressing variability among companies in the panel data.

Diagnostic Test

The table below displays the results of diagnostic test in this study:

Table 4. Diagnostic Test

Diagnostic Test	ROA	ROE
Modified Wald Test for Heteroskedasticity	Chi-squared: 1.4e+06, p-value 0.0000	Chi-squared: 3.8e+07, p-value 0.0000
Wooldridge Autocorrelation Test	F-statistic: 99.918, p-value 0.0000	F-statistic: 4.098, p-value 0.0436
Pesaran's cross-sectional Dependence Test	Chi-squared: 25.744, p-value 0.0000	Chi-squared: 24.618, p-value 0.0000

The diagnostic tests for the regression models assessing ROA and ROE reveal significant issues. The modified wald test for heteroskedasticity shows chi-squared values of 1.4e+06 for ROA and 3.8e+07 for ROE, with p-values of 0.0000, indicating heteroskedasticity in both models. The Wooldridge autocorrelation test reports F-statistics of 99.918 for ROA and 4.098 for ROE, with p-values of 0.0000 and 0.0436, respectively, highlighting autocorrelation. Additionally, the Pesaran cross-sectional dependence test shows chi-squared values of 25.744 for ROA and 24.618 for ROE, with p-values of 0.0000, indicating cross-sectional dependence. These results suggest the need for model improvements or more robust estimation methods to address these issues.

Results of Regression Analysis with ROA

The table below displays the result of regression analysis with ROA:

Table 5. ROA Regression Result

Variable	Coefficient	Std. Error	t	p> t
IM	-565E-07	1.33E-06	-0.42	0.672
ACCR	1.60E-05	7.71E-06	2.08	0.039
ACCP	7.72E-06	3.96E-06	1.95	0.052
ACC	-0.0011007	0.0002175	-5.06	0.000
COVID	0.6291118	0.4597059	1.37	0.172
CR	0.1777833	0.0411667	4.32	0.000
CAT	0.0005576	0.0004831	1.15	0.249
FSIZE	1.06561	0.1793144	5.94	0.000
LEV	0.0035167	0.0014581	2.41	0.016

Inventory Management had a coefficient of -5.65E-07, t-value of -0.42, and a p-value of 0.672, indicating that it does not significantly impact ROA. Although the negative coefficient suggests a potential decrease in profitability with improved inventory management, the lack of significance means this relationship is not robust.

Accounts Receivables showed a coefficient of 1.60E-05, t-value of 2.08, and p-value of 0.039, indicating a significant positive impact on ROA. This suggests that better management of receivables can enhance profitability.

Accounts payables had a coefficient of 7.72E-06, t-value of 1.95, and p-value of 0.052, which is close to significance. This implies that efficient management of payables may improve profitability, though it is not statistically significant at the 5% level.

Cash conversion cycle had a coefficient of -0.0011007, t-value of -5.06, and p-value of 0.000, showing a highly significant negative impact on ROA. A shorter cash conversion cycle is associated with higher profitability, indicating improved liquidity and operational efficiency.

COVID-19 had a coefficient of 0.6291118, t-value of 1.37, and p-value of 0.172, suggesting no significant impact on ROA. The positive coefficient implies a theoretical increase in profitability during the pandemic, but this effect is not statistically significant.

Current ratio had a coefficient of 0.1777833, t-value of 4.32, and p-value of 0.000, demonstrating a significant positive impact on ROA. Higher liquidity, as measured by the current ratio, correlates with higher profitability.

Current Assets had a coefficient of 0.0005576, t-value of 1.15, and p-value of 0.249, indicating no significant impact on ROA. Although there is a positive relationship, it is not statistically significant.

Firm size had a coefficient of 1.06561, t-value of 5.94, and p-value of 0.000, showing a significant positive impact on ROA. Larger firms tend to have higher profitability due to factors like economies of scale and market power.

Leverage had a coefficient of 0.0035167, t-value of 2.41, and p-value of 0.016, indicating a significant positive impact on ROA. Higher leverage can enhance profitability, though it requires careful management to avoid financial risks.

Results of Regression Analysis with ROE

The table below displays the result of regression analysis with ROE:

Table 6. ROE Regression Results

Variable	Coefficient	Std. Error	t	p> t
IM	-1.26E-05	1.10E-05	-1.15	0.251
ACCR	-4.97E-05	2.59E-05	1.92	0.056
ACCP	-3.70E-05	4.43E-05	0.83	0.404
ACC	-0.0035107	0.0007609	-4.61	0
COVID	2.193823	0.651508	1.33	0.185
CR	0.2026592	0.1704472	1.19	0.235
CAT	-0.0043338	0.0042936	-1.01	0.313
FSIZE	4.650758	0.874417	2.48	0.013
LEV	0.0109683	0.0112919	0.97	0.332

Inventory Management had a coefficient of -1.26E-05, t-value of -1.15, and p-value of 0.251, indicating no significant impact on ROE. The negative coefficient suggests a possible decrease in ROE with improved inventory management, but this relationship is not statistically significant.

Accounts receivable had a coefficient of 4.97E-05, t-value of 1.92, and p-value of 0.056, suggesting a nearly significant positive impact on ROE. Improved management of receivables may enhance ROE, although it is not significant at the 5% level.

Accounts payables had a coefficient of 3.70E-05, t-value of 0.83, and p-value of 0.404, indicating no significant impact on ROE. Despite a positive coefficient, effective management of payables does not significantly affect ROE.

Cash conversion cycle had a coefficient of -0.0035107, t-value of -4.61, and p-value of 0.000, demonstrating a significant negative impact on ROE. A shorter cash conversion cycle is associated with higher ROE, reflecting better liquidity and profitability.

COVID-19 had a coefficient of 2.193823, t-value of 1.33, and p-value of 0.185, indicating no significant impact on ROE. Although there is a positive coefficient suggesting potential improvements in ROE during the pandemic, this effect is not statistically significant.

Current ratio had a coefficient of 0.2026592, t-value of 1.19, and p-value of 0.235, showing no significant impact on ROE. Higher liquidity does not significantly enhance ROE, despite a positive relationship.

Current assets had a coefficient of -0.0043338, t-value of -1.01, and p-value of 0.313, indicating no significant impact on ROE. The negative coefficient suggests a potential decrease in ROE with more current assets, but this is not significant.

Firm size had a coefficient of 4.650758, t-value of 2.48, and p-value of 0.013, showing a significant positive impact on ROE. Larger firms tend to have higher ROE due to advantages like scale and market dominance.

Leverage had a coefficient of 0.0109683, t-value of 0.97, and p-value of 0.332, indicating no significant impact on ROE. Although higher leverage could potentially improve ROE, the effect is not statistically significant.

CONCLUSION

This study finds that effective cash conversion cycle management and firm size are crucial determinants of corporate profitability in Indonesia, with significant effects on Return on Assets (ROA) and Return on Equity (ROE). Additionally, larger firms benefit from economies of scale, better resource access, and broader market reach, all of which contribute positively to profitability. Conversely, inventory management, accounts receivable, accounts payable, current ratio, current assets, leverage, and the impact of COVID-19 did not show significant effects on profitability in this model, suggesting that companies may need to explore different management strategies or further research.

Financial managers should strengthen receivables management by implementing effective credit policies and stringent monitoring to expedite cash flow and enhance liquidity. To improve cash flow, it is essential to streamline the cash conversion cycle by implementing more efficient inventory management practices and faster receivables collection processes. Companies should also maintain a healthy current asset ratio and adapt swiftly to external conditions, such as the COVID-19 pandemic, by adopting digital technologies and diversifying their business. Theoretically, this research contributes to the literature on working capital management and profitability during the COVID-19 pandemic, and future studies should explore the long-term effects of the pandemic and industry-specific comparisons. Alternative research methods, such as dynamic panel analysis, could offer additional insights into the relationships between working capital management, external conditions, and profitability, addressing the limitations of this study.

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ENTREPRENEURIAL MINDFULNESS AND AMBIDEXTROUS LEADERSHIP IN STRENGTHENING RESILIENCE: THE MEDIATING ROLE OF SCALING-UP PERFORMANCE CAPACITY IN INDONESIAN FAMILY BUSINESSES

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ABSTRACT

Entrepreneurial resilience is crucial for the sustainability of family businesses, especially in dynamic and uncertain environments. Despite the growing interest in entrepreneurial resilience, existing research has yet to fully explore how both cognitive (entrepreneurial mindfulness) and strategic (ambidextrous leadership) leadership factors collectively shape resilience, particularly in the family business context. This study addresses this gap by investigating how scaling-up performance capacity mediates these relationships, providing a more integrative perspective on resilience-building mechanisms in family firms. Using a quantitative approach, data was collected through questionnaires from 265 family business owners in Indonesia. The data was analyzed utilizing Smart PLS (Partial Least Squares Structural Equation Modeling) to evaluate the proposed hypotheses. The results reveal that entrepreneurial mindfulness and ambidextrous leadership have a positive and significant impact on entrepreneurial resilience. Furthermore, the capacity for scaling-up performance functions as an important mediator, enhancing the connection between leadership behaviors and resilience. Theoretically, this study contributes to the expanding literature on family business sustainability by integrating resilience-building strategies with leadership and performance capacity constructs. These findings provide practical contributions for family businesses in adopting effective leadership strategies and increasing adaptive capacity to enhance resilience against market uncertainties and generational transitions.

Keywords: Entrepreneurial Resilience; Entrepreneurial Mindfulness; Ambidextrous Leadership; Scaling-Up Performance Capacity; Family Business

INTRODUCTION

The increasingly complex and competitive development of the global economy has required organizations, including family businesses, to continue to innovate and adapt in order to maintain their competitiveness. A family business is a type of business owned and managed by family members, where family members play a key role in strategic decision-making, operations, and leadership of the company (Chrisman, 2019). These businesses can be micro, small, medium, or large, but what distinguishes them from non-family businesses is the family's involvement in the managerial process and significant control of the company (Guadalupe et al., 2023). The definition of a family business is not only about share ownership, but also the extent to which the family plays a role in the day-to-day operations and strategy determination of the company. Unique characteristics of family businesses include a close relationship between ownership and management, the influence of family values on organizational culture, and long-term goals that tend to focus more on business continuity than short-term profits (Basco, 2017). This creates a different dynamic compared to non-family businesses, where personal and emotional relationships between family members often play a role in business decision-making (Fang et al., 2020).

Family businesses play a vital role in the global economy and this is true in many countries, including Indonesia. Family businesses, especially small and medium-sized ones, make significant contributions to job creation, economic growth, and local community development (Adriansah & Mubarak, 2023; Weinberg, 2023). According to research conducted by Daya Qarsa, 95% of Indonesian companies are family businesses that contribute 82% of the national Gross Domestic Product (GDP) and 40% of the Indonesian market capitalization (Dayainara, 2022). This significant contribution shows that many family businesses in Indonesia not only create jobs but also help stimulate the economy in rural areas, improve the welfare of local communities, and strengthen social structures through kinship and community values (Salsabillah et al., 2023; Limanseto, 2022). In addition, family businesses often focus on long-term sustainability, making them more stable and resilient to economic crises than companies that are oriented towards short-term profits (Yilmaz et al., 2024; Eckey & Memmel, 2023; Ye, 2021).

Despite its many advantages, family businesses face unique challenges that may not be found in non-family businesses. One of the biggest challenges is business continuity between generations. According to the research by the family business institute, only 30% of family businesses operate into the second generation, 12% survive to the third generation, and only 3% of all family businesses are still viable into the fourth generation or beyond (Taylor-Martin, 2022). This means that most family businesses are unable to survive generational transitions, which are often caused by a lack of clear succession planning, conflict between family members, and differences in vision between the founding and succeeding generations (Bizri, 2016).

Conflict between family members is a very common internal challenge in family businesses. This conflict can arise from various sources, such as differences in views on the direction of the company, power struggles, or personal problems between family members (Gavrić & Braje, 2024). If not managed properly, this conflict can disrupt the stability of the company and even cause the collapse of the family business. Moreover, family businesses often experience limitations in the development of business skills and knowledge in the next generation. The founding generation may have built the business in their own way, but the next generation may not have the same skills or insights to manage and grow the business in a

different era, especially in an era full of technological change and global competition (Suddaby & Jaskiewicz, 2020).

Inadequate education, training, and guidance for the next generation are often the causes of failed intergenerational transitions in family businesses (Bizri, 2016). On the external side, family businesses also face challenges from increasingly fierce market competition, rapid technological change, and global economic fluctuations (Zaidi et al., 2024). Family businesses that fail to adapt to these changes risk being left behind and losing their competitiveness. Technological change, for example, can threaten businesses that rely on traditional methods and are not ready to adopt new technological innovations (Solberg et al., 2020; Radicic & Petković, 2023). Meanwhile, economic fluctuations can have a significant impact on family businesses that may be more vulnerable to financial risk than large companies that have wider access to capital resources. This shows the importance of entrepreneurial resilience that allows family business leaders to adapt, recover, and continue to function effectively despite facing significant challenges or major setbacks, as well as the leader's scaling-up performance capacity to manage and improve business performance sustainably across generations (Yilmaz et al., 2024). Given these challenges, a critical question remains: What leadership factors can effectively enhance entrepreneurial resilience in family businesses, ensuring their continuity and adaptability? While entrepreneurial resilience has been widely studied, most research (Boers et al., 2024; Conz et al., 2023; Abdelwahed & Basly, 2023; Salvato et al., 2020; Anggadwita et al., 2023) has focused on external market factors or general leadership traits rather than the specific interplay of cognitive and strategic leadership styles in family business settings.

One strategic approach that is increasingly gaining attention is the application of ambidextrous leadership. Ambidextrous leadership is the ability of a leader to manage the exploration of new opportunities and the exploitation of existing resources (Alghamdi, 2018). Exploration includes innovation, finding new markets, and developing new products or services, while exploitation includes optimizing existing processes, increasing efficiency, and managing risks. In the context of family businesses, ambidextrous leadership is crucial because it helps organizations balance maintaining family traditions and heritage with the need to innovate and adapt to market changes. This leadership style also ensures that while the organization explores new opportunities, it also refines existing processes, thereby enhancing overall performance capacity (Martínez-Climent et al., 2019).

In addition to ambidextrous leadership, entrepreneurial mindfulness is also an important element in supporting the success of family businesses. Entrepreneurial mindfulness denotes the capacity of leaders to maintain focus, adaptability, and responsiveness to opportunities and challenges in a fluctuating business landscape. Mindful leaders, by recognizing the subtleties of the business environment, can execute initiatives that scale-up performance capability, thereby preparing the organization for sustainable success (Gelderen et al., 2019).

Entrepreneurial mindfulness is becoming increasingly important in this digital era, where changes in technology and consumer preferences occur very quickly. Mindfulness helps entrepreneurs to enhance their creativity by fostering openness to novel ideas and diverse opinions. It makes them more resilient, enabling people to cope with stress and recover from failures (Kelly, 2023). Family business leaders who have a high entrepreneurial awareness will be better able to identify new opportunities, better navigate risks, and make wiser decisions in the face of uncertainty (Dayan et al., 2019). Ambidextrous leadership, when combined with entrepreneurial mindfulness, has been shown to increase entrepreneurial resilience through scaling-up performance capacity (Indrianti et al., 2024), providing resilience and the ability for businesses to grow sustainably.

Building upon resilience theory and leadership ambidexterity literature, this study merges cognitive and strategic viewpoints to propose a comprehensive model of resilience development in family businesses. Focusing on the mediating function of scaling-up performance capability, the research seeks to address the gaps by studying the impacts of ambidextrous leadership and entrepreneurial mindfulness on the resilience of Indonesian family enterprises. It aims to enrich the literature by clarifying an integrated approach that combines leadership styles, cognitive processes, and performance measurements to bolster company resilience. This viewpoint is anticipated to provide actionable insights for family business leaders who seek to fortify their firms against external disruptions.

LITERATURE REVIEW

Entrepreneurial Mindfulness and Entrepreneurial Resilience

Mindfulness in the context of entrepreneurship, an elevated level of consciousness and attention to the here and now, is a key component of entrepreneurial resilience. When entrepreneurs practice mindfulness, they are better equipped to deal with the risks and difficulties that come with running a firm (Aránega et al., 2020). Research shows that entrepreneurs who make mindfulness a regular part of their lives are more resilient and able to manage stressful situations. With regular exercise of mindfulness practices like body scanning and mindful breathing, entrepreneurs may learn to control their stress reactions and feel better overall. Stress regulation skills are essential to make sound strategic judgments and maintain operations running effectively under trying times.

When it comes to family enterprises, where work and personal life frequently mix, practicing mindfulness can help build resilience. Epstein & Krasner (2013) defined resilience as the capacity to handle stress in a constructive manner, allowing for the accomplishment of goals while keeping psychological and physical costs low, individuals who are resilient recover from difficulties and simultaneously grow stronger. Entrepreneurial mindfulness helps family businesses endure challenges by fostering better communication and interpersonal connections among family members engaged in the enterprise. As a result of their increased resilience in the face of adversity and their capacity to harmonize personal and professional priorities, entrepreneurs who recite mindfulness are better able to build sustainable businesses (Charoensukmongkol, 2019). Since personal relationships can have a major influence on company operations, this alignment is crucial in family enterprises.

Researchers in China discovered that Small and Medium-Sized Enterprises (SMEs) who practiced entrepreneurial mindfulness were better able to withstand the COVID-19 pandemic (Liu et al., 2022). According to the study's findings, company owners who kept a level head in the face of a constantly shifting business climate were more likely to see their companies through to success. Businesses that are resilient are able to change their tactics in reaction to outside forces because of their adaptability.

Family businesses might benefit from an entrepreneurial mindset that encourages receptiveness to new ideas and a commitment to lifelong learning. This culture fosters an environment where family members are encouraged to welcome change and see obstacles as opportunities for personal development, which strengthens the organization's ability to withstand setbacks. The intricacies of family relationships and market needs can be better managed by family enterprises that foster an atmosphere that values mindfulness. Therefore, the first hypotheses states.

H₁: Entrepreneurial mindfulness has a positive and significant effect on entrepreneurial resilience.

Ambidextrous Leadership and Entrepreneurial Resilience

Ambidextrous leadership, which is the ability to balance exploratory and exploitative actions, is very important in improving entrepreneurial resilience, especially in family enterprises. This leadership style allows firms to adapt to changing circumstances while preserving operational efficiency by pursuing innovation (exploration) and optimizing existing processes (exploitation) at the same time (Sant'Anna, 2024). Ambidextrous leadership helps entrepreneurs remain resilient when faced with unexpected changes or crises. Ambidextrous leaders have flexibility in decision-making that allows them to act quickly when faced with external challenges, such as economic crises or regulatory changes, that could threaten business continuity (Trieu et al., 2023).

In family enterprises, ambidextrous leadership helps to combine old beliefs with new methods. It takes part in creating a culture that is focused on learning. This culture of learning helps the organization become more resilient by preparing the business to adapt effectively to problems that arise both internally and externally. Leaders who are able to successfully maintain this equilibrium are more prepared to lead their organizations through times of change and uncertainty (Cohen & Sharma, 2021). Ambidextrous CEOs improve the resilience of family businesses by creating a culture that appreciates both stability and innovation, which helps to ensure that these enterprises will continue to thrive for generations to come.

According to Bawono (2022), ambidextrous leadership has a favorable effect on organizational performance because it encourages flexibility and adaptability. Leaders may create a climate that values continual improvement by promoting the preservation of current processes while also stimulating the search for new information. Gentle & Metselaar (2020) found that executives who demonstrate ambidextrous behaviors can lead their organizations to achieve better performance outcomes, which are indicative of improved resilience. This dual competence enables family firms to take advantage of their current skills while also pursuing new prospects, which helps them maintain their competitive edge (Beh, 2023). Therefore, the second hypotheses states.

H₂: Ambidextrous leadership has a positive and significant effect on entrepreneurial resilience.

The Mediating Role of Scaling-Up Performance Capacity

Scaling-up performance capacity, which is defined as the ability to grow operational capabilities to meet increasing demands, is often faces unique challenges because decisions regarding expansion are based not only on business considerations but also on family values, ownership structures, and intergenerational influences (Camisón-Zornoza et al., 2020). When it comes to family business, scaling-up performance capability means making the most of the trust and unity within the family to successfully execute growth objectives. Good scaling-up capabilities enable family businesses to respond to growing demand and market changes without losing control or quality of service. It provides an opportunity for family businesses to maintain their heritage by remaining adaptive in an ever-changing market, creating resilience in the face of expansion challenges.

Ambidextrous leadership and entrepreneurial mindfulness increase scaling-up performance capacity, which strengthens resilience (Indrianti et al., 2024). Mindfulness in business helps with this process by having the ability to be aware of the leader's thoughts, feelings, and surroundings in a nonjudgmental way. By being mindful, leaders can create space for creativity and innovative thinking, both of which are necessary for expanding operations (Felber, 2020). At the same time, ambidextrous leadership promotes the pursuit of efficiency and innovation (Gerlach et al., 2020), which guarantees that scaling initiatives are progressive

and long-lasting. This highlights the significance of building family businesses' performance capacities to enable scalability and adaptation.

Scaling-up performance capacity acts as a mediator that influences the relationship between mindfulness and resilience because the scaling-up process demands mental resilience and the ability to stay focused despite facing greater risks. When the scaling-up process is well managed, entrepreneurs can not only expand their businesses but also increase their resilience to failure and external threats. Scaling-up capacity also influences the relationship between ambidextrous leadership and entrepreneurial resilience by facilitating the process of business growth without sacrificing stability. When ambidextrous leaders are able to leverage scaling-up performance capacity, they can ensure that their businesses are not only grow but also remain resilient in the face of challenges that arise during the expansion process (Edelman et al., 2016).

Family business that develops entrepreneurial mindfulness and ambidextrous leadership are in a better position to grow successfully, which makes them more resilient to changes in the market and issues within the company. Ambidextrous leaders offer the strategic direction to strike a balance between exploring new opportunities and maximizing old ones, while mindful leaders are better able to determine when to do both. When family values and company goals are in sync, it's much easier to scale a company as a whole. Practical outcomes such as better decision-making, more innovation, and more flexibility can be achieved through implementing these leadership characteristics and concentrating on scaling-up performance capability. Therefore, the third and fourth hypotheses state.

H₃: Scaling-up performance capacity mediates a positive and significant effect of entrepreneurial mindfulness on entrepreneurial resilience.

H₄: Scaling-up performance capacity mediates a positive and significant effect of ambidextrous leadership on entrepreneurial resilience.

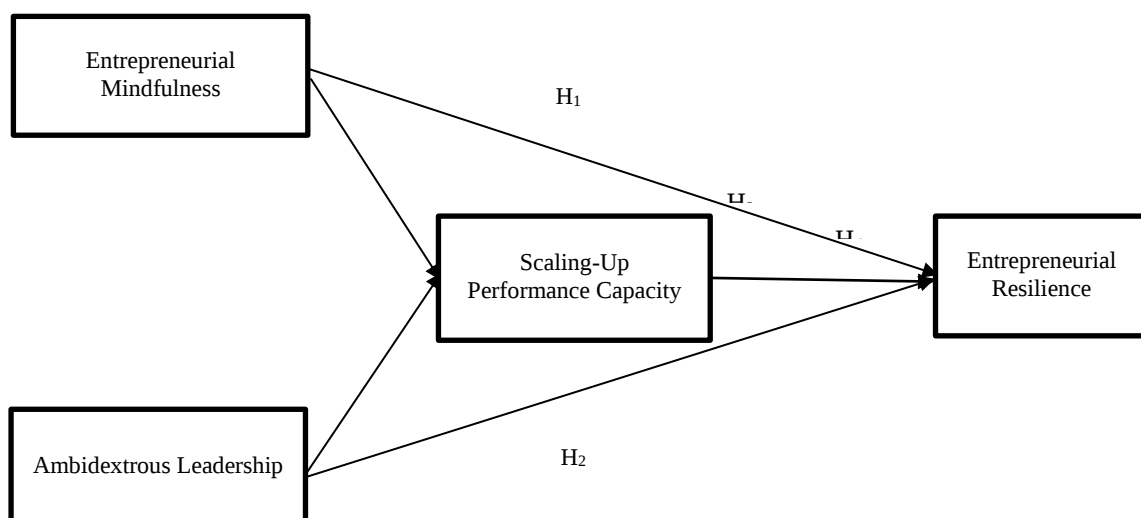


Figure 1. Research Model
 Source: (Indrianti et al., 2024)

RESEARCH METHOD

This study employed a quantitative approach. This method was selected due to the research's aim of assessing or validating existing theories to determine their accuracy. The

research utilizes primary data collected through online questionnaires distributed to 265 family business owners in Indonesia who have operated their businesses for a minimum of five years. The businesses came from various industries, namely, food and beverages, tourism, service business, retail, and mining.

Measurements for the indicators derived from variables in this research are assessed using a 5-point Likert Scale ranging from strongly disagree to strongly agree. There are two independent variables used in this study which are entrepreneurial mindfulness and ambidextrous leadership, one dependent variable which is entrepreneurial resilience, and one mediating variable that is scaling-up performance capacity. Eight indicators are used to measure ambidextrous leadership and six indicators each are used to measure entrepreneurial mindfulness, entrepreneurial resilience, and scaling-up performance capacity (Appendix 1).

A multivariate analysis was used because it allows researchers to test relationships between multiple variables simultaneously, thereby providing a more comprehensive understanding of the phenomenon being studied. We employed Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the relationships among variables, utilizing SmartPLS 4 software. PLS-SEM was chosen because of its ability to handle complex models with multiple constructs, indicators, and relationship paths with no requirement of strict data distribution assumptions (Hair et al., 2021). A structural equation model featuring latent constructs consists of two parts. The initial part of the structural equation model includes the measurement models (outer model), which represent the one-way predictive connections between each latent construct and its corresponding observed indicators. The second part is the structural model (inner model), which illustrates the relationships (paths) among the latent constructs.

A validity test will be performed to evaluate the indicators used to gather the data. Validity test is a measure or a test that will examine how good the applied instrument is utilized to measure one of the concept dimensions and to be measured in good and right way (Sekaran & Bougie, 2019). This research carried out validity tests using convergent validity and discriminant validity. Convergent validity is established when the value of Average Variance Extracted (AVE) for each variable exceeds 0.5 and the outer loading of each indicator surpasses 0.7 (Hair et al., 2021). Discriminant validity test is established if HTMT value is below 0.9 (Henseler et al., 2015) and Fornell Larcker criterion is fulfilled when square root of the AVE of each construct is higher than the correlation between constructs (Ghozali & Kusumadewi, 2023).

Besides validity test, reliability test is also necessary, as valid data does not always lead to reliable data. Reliability means that the measure is without bias or free of error and ensures the consistency of measurement across time and various items in the instrument (Sekaran & Bougie, 2019). The reliability test was measured using Cronbach's Alpha and composite reliability. A variable is considered reliable when the values of Cronbach's Alpha and composite reliability are equal to or greater than 0.7 (Sekaran & Bougie, 2019).

The evaluation of the model's predictive capabilities was done by examining the R-square values of the endogenous constructs, which indicate the proportion of variance explained by the predictor variables. The path coefficients were also assessed for significance and strength, employing bootstrapping techniques to generate confidence intervals and p-values. This process determines the significance of each hypothesized relationship within the model. The hypothesis is supported if the p-value < 0.05, indicating statistical significance at the 95% confidence level. It is also supported if the t-value > 1.645, which is consistent with the 5% significance level for a one-tailed test (Hair et al., 2021).

RESULTS AND DISCUSSION

Respondents' Profile

The respondents' profile consists of 265 family business owners in Indonesia, categorized by gender, business sector, and education level (Table 1). In terms of gender distribution, 58.1% of the respondents are men (154 individuals), while 41.9% are women (111 individuals). This indicates a higher representation of male business owners in the sample. The business sectors covered in this study are predominantly food and beverages, which constitutes the largest proportion at 63.4% (168 respondents). Service businesses account for 21.1% (56 respondents), followed by hospitality at 4.9% (13 respondents), retail at 6.8% (18 respondents), and mining at 3.8% (10 respondents). These figures suggest that the majority of family businesses in the sample operate in the food and beverages sector, reflecting its significance in the Indonesian economy.

Regarding education level, the respondents' qualifications range from high school to doctoral degrees. The largest group, 59.6% (158 respondents), holds a bachelor's degree, followed by 28.7% (76 respondents) with a diploma. A smaller portion, 8.3% (22 respondents), completed only high school education, while 3.4% (9 respondents) have attained a master's or doctoral degree. These statistics highlight that most family business owners in the study have higher education qualifications, with bachelor's and diploma holders making up the majority. This educational background suggests that formal education plays a significant role in entrepreneurial engagement within family businesses in Indonesia.

Table 1. Respondents' Profile

Category	Details	Total	Percentage (%)
Gender	Men	154	58.1
	Women	111	41.9
	Total	265	100
Business Sector	Food and Beverages	168	63.4
	Service Business	56	21.1
	Hospitality	13	4.9
	Retail	18	6.8
	Mining	10	3.8
	Total	265	100
Education Level	Highschool	22	8.3
	Diploma	76	28.7
	Bachelor	158	59.6
	Master/Doctoral	9	3.4
	Total	265	100

Source: Results of data analysis, 2024

Descriptive Statistics

Descriptive statistics are characterized by a set of measures, including the mean, median, and standard deviation, which provide informative insights into the responses given by respondents. Descriptive statistics form a basis for all quantitative analysis and are a precursor for inferential statistics, which uses properties of a data set to make inference and predictions beyond the data (Green et al., 2022). The descriptive statistics table is as follows:

Table 2. Descriptive Statistics

Variables	Indicators	Mean	Min	Max	Standard Deviation
Entrepreneurial Mindfulness (EM)	EM1	3.996	1.000	5.000	0.822
	EM2	3.966	1.000	5.000	0.798

	EM3	4.000	1.000	5.000	0.856
	EM4	3.932	1.000	5.000	0.857
	EM5	3.928	1.000	5.000	0.832
	EM6	3.970	1.000	5.000	0.796
	AL1	3.909	1.000	5.000	0.833
	AL2	3.955	1.000	5.000	0.818
	AL3	3.891	1.000	5.000	0.805
Ambidextrous Leadership (AL)	AL4	3.925	1.000	5.000	0.830
	AL5	3.898	1.000	5.000	0.806
	AL6	3.940	1.000	5.000	0.849
	AL7	3.947	1.000	5.000	0.818
	AL8	3.891	1.000	5.000	0.833
	SPC1	4.000	1.000	5.000	0.787
	SPC2	3.992	1.000	5.000	0.796
Scaling-up Performance Capacity (SPC)	SPC3	3.977	1.000	5.000	0.791
	SPC4	3.940	1.000	5.000	0.799
	SPC5	3.951	1.000	5.000	0.788
	SPC6	3.943	1.000	5.000	0.787
	ER1	3.909	1.000	5.000	0.815
	ER2	3.936	1.000	5.000	0.777
Entrepreneurial Resilience (ER)	ER3	3.913	1.000	5.000	0.779
	ER4	3.913	1.000	5.000	0.745
	ER5	3.936	1.000	5.000	0.815
	ER6	3.943	1.000	5.000	0.792

Source: Results of data analysis, 2024

According to Table 2, there are a total of 26 indicators across the four variables. The mean average of these 26 indicators is 3.942, indicating that respondents' answers tend to be close to scale 4 (agree). Among the 26 indicators, the standard deviation varies between 0.745 and 0.857, demonstrating that the data's average dispersion is relatively narrow, which indicates a high level of consistency within the data.

Inferential Statistics

Convergent validity was measured using factor loading and Average Variance Extracted (AVE). Table 3 shows that all indicators meet the factor loading criteria above 0.7 and all of the AVE value is more than 0.5, thus declared as valid.

Table 3. Convergent Validity Test Result

Variables	Indicators	Outer Loading	AVE	Result
	EM1	0,891		Valid
	EM2	0,903		Valid
Entrepreneurial Mindfulness	EM3	0,913	0.817	Valid
	EM4	0,897		Valid
	EM5	0,925		Valid
	EM6	0,893		Valid
	AL1	0,897		Valid
	AL2	0,913		Valid
	AL3	0,896		Valid
Ambidextrous Leadership	AL4	0,874	0.796	Valid
	AL5	0,886		Valid
	AL6	0,888		Valid
	AL7	0,894		Valid
	AL8	0,889		Valid
	SPC1	0,890		Valid
	SPC2	0,900		Valid
Scaling-up Performance Capacity	SPC3	0,909	0.798	Valid
	SPC4	0,871		Valid
	SPC5	0,894		Valid
	SPC6	0,894		Valid
Entrepreneurial	ER1	0,904	0.806	Valid

Resilience	ER2	0,892	Valid
	ER3	0,898	Valid
	ER4	0,890	Valid
	ER5	0,900	Valid
	ER6	0,902	Valid

Source: Results of data analysis, 2024

In addition to convergent validity, the Heterotrait-Monotrait (HTMT) ratio and the Fornell-Larcker Criterion are also used to assess discriminant validity. The results from the HTMT test (Table 4) are all below 0.90, suggesting that each variable demonstrates strong discriminant validity. The result of Fornell Larcker Criterion (Table 5) shows that the square root of AVE is higher than the correlation of other variables. Therefore, all variables used in this model meet the discriminant validity criteria.

Table 4. Heterotrait-Monotrait Ratio (HTMT) Test Result

	Ambidextrous Leadership	Entrepreneurial Mindfulness	Entrepreneurial Resilience	Scaling-up Performance Capacity
Ambidextrous Leadership				
Entrepreneurial Mindfulness	0.277			
Entrepreneurial Resilience	0.337	0.384		
Scaling-up Performance Capacity	0.391	0.333	0.362	

Source: Results of data analysis, 2024

Table 5. Fornell Larcker Criterion Test Result

	Ambidextrous Leadership	Entrepreneurial Mindfulness	Entrepreneurial Resilience	Scaling-up Performance Capacity
Ambidextrous Leadership	0.892			
Entrepreneurial Mindfulness	0.269	0.904		
Entrepreneurial Resilience	0.324	0.374	0.898	
Scaling-up Performance Capacity	0.376	0.321	0.346	0.893

Source: Results of data analysis, 2024

The reliability test is evaluated through Cronbach's Alpha and composite reliability. A Cronbach's Alpha higher than 0.6 and a composite reliability value above 0.7 are deemed reliable and suitable for subsequent testing. The outcomes of the reliability assessment are presented in Table 5 below:

Table 6. Reliability Test

Variable	Cronbach's Alpha	Composite Reliability	Result
Entrepreneurial Mindfulness	0.955	0.964	Reliable
Ambidextrous Leadership	0.963	0.969	Reliable
Scaling-up Performance Capacity	0.949	0.959	Reliable
Entrepreneurial Resilience	0.952	0.961	Reliable

Source: Results of data analysis, 2024

Structural Model

The multicollinearity test was carried out by looking at the value of the Variance Inflation Factor (VIF) of less than 10 (Sekaran & Bougie, 2019). The result of the multicollinearity test

for all indicators and variables in this study is aligned with the established criteria. Consequently, there is statistically no significant correlation among the variables statistically.

The R-square results indicated that entrepreneurial mindfulness, ambidextrous leadership, and scaling-up performance capacity account for 22.4% of entrepreneurial resilience, while the other 77.6% is attributed to factors not included in the models. Furthermore, entrepreneurial mindfulness and ambidextrous leadership explain 19.4% of scaling-up performance capacity, with the remaining 80.6% attributed to other variables not captured by the model. This leads to the conclusion that independent variables have a weak impact on dependent variables.

The hypothesis is supported if the t-statistic surpasses 1.645 (one-tailed) and the p-value is less than 0.05 (Hair et al., 2021). Table 7 shows that all four hypotheses are supported, as the t-statistic exceeds 1.645 and the p-value is under 0.05. The findings from the hypothesis testing are outlined as follows:

Table 7. Hypothesis Testing

Hypothesis		Original sample	t-statistic	P-value	Result
Entrepreneurial mindfulness	à Entrepreneurial resilience	0.263	4.313	0.000	Supported
Ambidextrous leadership	à Entrepreneurial resilience	0.180	2.893	0.004	Supported
Entrepreneurial mindfulness	à Scaling-up Performance Capacity à Entrepreneurial resilience	0.046	2.096	0.036	Supported
Ambidextrous leadership	à Scaling-up Performance Capacity à Entrepreneurial resilience	0.060	2.056	0.040	Supported

Source: Results of data analysis, 2024

The results of the structural model indicate that entrepreneurial mindfulness and ambidextrous leadership have a positive and significant impact on entrepreneurial resilience, hence supporting hypotheses 1 and 2. Moreover, we also find that scaling-up performance capacity mediates the positive and significant impact of entrepreneurial mindfulness ambidextrous leadership toward entrepreneurial resilience, thus hypotheses 3 and 4 are supported.

Discussion

The practice of mindfulness in entrepreneurship significantly and positively influences resilience in family business ventures. This result confirms the study conducted by Aránega et al. (2020) and Aránega et al. (2025). Mindfulness can contribute positively to the resilience of an entrepreneur because by being mindful, entrepreneurs can maintain their mental balance in facing various difficult situations (Murnieks et al., 2020). The ability to stay calm and present in stressful situations makes entrepreneurs less intimidated by challenges. This is a very important factor in building resilience (Philippe et al., 2021), because they are better able to find creative solutions in stressful conditions.

Mindfulness enables entrepreneurs to have a more open and flexible view, so they can see problems from various perspectives without being distracted by negative emotions. However, for this mindfulness to truly have a positive impact on entrepreneurial resilience, the ability to translate this awareness into actions that support business growth is needed. This is where scaling-up performance capacity plays an important role in mediating mindfulness and entrepreneurial resilience. The capacity of family business owners to have good systems,

strategies, and resources that can grow business without losing efficiency and sacrificing quality enables them to remain resilient when faced with uncertainty or rapid growth. Resilience is formed because entrepreneurs have a clear plan for expansion and risk management, which helps them better overcome obstacles (Suddaby & Jaskiewicz, 2020).

In a volatile business environment, organizations require a leader who can innovate ways to enhance current workflows while effectively guiding teams to carry out innovations (Riyanto, 2024). Ambidextrous leadership positively and significantly influence entrepreneurial resilience, consistent with previous studies (Trieu et al., 2023; Shahraki, 2023). The combination of exploration and exploitation prepares entrepreneurs to be more adaptive and responsive in difficult situations. Exploitative leadership directs a team in alignment with the organization's established norms, frameworks, and practices, intentionally adjusting the leader's conduct. Exploratory leadership behavior inspires team members to think outside the box, break free from conventional approaches, and even embrace risks to explore uncharted territories. This combination allows entrepreneurs to have the flexibility to adapt to change, which in turn supports their resilience (Höft & Olivan, 2023).

In the family business context, an ambidextrous leader can provide space for younger family members to explore innovation and update business processes, while also maintaining the stability and consumer trust that has been built. Leaders who demonstrate ambidextrous behaviors are more capable of effectively scaling their operations. They skillfully balance the need to uphold family traditions with the pursuit of novel ideas. Maintaining this balance is essential throughout the scaling-up stage, when increasing performance capacity requires both process optimization and exploration of new opportunity in the market (Indrianti et al., 2024). This attitude also creates a resilient mindset, where entrepreneurs are able to see opportunities behind difficulties and take innovative steps to overcome them (O'Reilly III & Tushman, 2021).

CONCLUSION

This research investigates the elements that affect entrepreneurial resilience within Indonesian family businesses, emphasizing the significance of entrepreneurial mindfulness, ambidextrous leadership, and the ability to enhance performance capacity as a mediating factor. The results indicate that both entrepreneurial mindfulness and ambidextrous leadership significantly contribute to entrepreneurial resilience. Additionally, the performance capacity to scale-up serves as a mediator, reinforcing the connection between these leadership qualities and resilience. These findings emphasize the significance of psychological and strategic leadership traits in improving the adaptability and enduring sustainability of family businesses in Indonesia.

Family business owners who engage in mindfulness enhance their self-awareness and emotional control, which subsequently aids in their ability to cope with stress, challenges, and uncertainties in the business world. Ambidextrous leadership allows family firms to maneuver through the intricacies of expanding their operations by balancing innovation and efficiency, thus enhancing their ability to endure and adjust to difficulties. The inclusion of scaling-up performance capacity as a mediator highlights that resilience stems not only from leadership practices but also from a firm's ability to enhance its operational and strategic capabilities. This study contributes to the literature on entrepreneurship and business strategies by showing how unique characteristics such as entrepreneurial mindfulness and ambidextrous leadership can influence entrepreneurial resilience in the context of family businesses in Indonesia.

From a practical standpoint, the results of this research provide important insights for leaders of family businesses including their successors and also business consultants. First,

cultivating entrepreneurial mindfulness through leadership development and mindfulness techniques can improve decision-making and stress management, thereby enhancing business resilience. Second, family business leaders ought to implement ambidextrous leadership approaches that enable them to balance established business practices with innovation-driven growth. Promoting a culture that embraces both exploration and exploitation guarantees that businesses stay competitive while remaining aligned with their fundamental values.

In addition, improving the capacity for scaling-up performance should be a key focus for family businesses aiming for long-term sustainability. This can be accomplished by investing in technology, developing talent, and optimizing processes. Business leaders need to emphasize strategic growth planning to ensure that scaling initiatives are in harmony with the organization's abilities and market possibilities. Moreover, business associations can help family businesses by offering access to resources such as mentorship schemes, financial support, and innovation hubs that foster growth and resilience.

Despite its insights, this research also has some limitations that need to be addressed in future research. The focus on Indonesian family businesses may restrict the applicability of the findings to other cultural or economic settings. Future investigations could examine these relationships in various countries or regions to evaluate the consistency of the outcomes. Furthermore, while this study highlights scaling-up performance capacity as a significant mediator, additional mediating or moderating factors, such as organizational learning, financial capacity, or digital transformation, can be explored in subsequent research. Examining how different industry sectors or sizes of family businesses impact these relationships could also yield more detailed insights. Lastly, longitudinal studies that monitor the development of entrepreneurial resilience in family businesses over time would provide a richer understanding of how these leadership behaviors and scaling strategies contribute to sustained success.

APPENDIX

Table 8. Appendix 1. Indicators Used

Variables	Measurements	Source
Ambidextrous Leadership	I am open to accommodating various ideas from my team.	Indrianti et al. (2024)
	I encourage the team to always give their best in doing every task.	
	I accommodate the learning needs within the team to advance the family business.	
	I actively evaluate the team's performance to ensure that targets are achieved.	
	I am able to manage existing rules or procedures to ensure the efficiency of my family business.	
	I always follow the established plan to achieve my family business goals.	
	I am quick to take corrective action if there is a mistake.	
Entrepreneurial Mindfulness	I focus on ensuring that all important aspects of this family business are handled to completion.	Indrianti et al. (2024)
	I have strong motivation to continue developing my family business.	
	I feel that my unique character as a business owner is very helpful in facing industry challenges.	
	I think of ways to avoid potential failures in running a family business.	
	I am able to manage complexity to base.	
	I strive to continuously improve learning from my family business experiences to make better decisions.	
Scaling-Up Capacity	I often explore new entrepreneurial strategies through the experiences I gain.	Indrianti et al. (2024)
	I am able to effectively identify the best talents to join my family business.	

Entrepreneurial Resilience	I am able to effectively manage team performance to achieve optimal results.	Indrianti et al. (2024)
	I am quick to respond to new opportunities that arise in the market.	
	I am able to manage the risks associated with growing my family business well.	
	I have a clear strategy to scale my family business.	
	I am confident in making decisions related to scaling my family business.	
	I can manage existential fear when facing challenges in the family business.	
	I always follow up on previously identified family business opportunities.	
	I am able to maintain relationships with other entrepreneurs to support my family business.	
	I am able to manage family business resources effectively to achieve the expected goals.	
	I have a clear understanding of the unique value my family business offers to customers.	
	I carry out internal restructuring in the family business to improve operational efficiency.	

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TRANSFORMATIONAL LEADERSHIP DAN LITERASI AI SEBAGAI STRATEGI PENINGKATAN JOB PERFORMANCE KARYAWAN START-UP DI ERA DIGITAL

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ABSTRACT

This study aims to analyze the effect of transformational leadership and artificial intelligence (AI) literacy on job performance with AI anxiety and managing workplace FOMO as mediating variables in millennial generation employees in start-up companies. Millennial employees, who dominate the workforce in this sector, have unique characteristics such as flexible work preferences, dependence on technology, and the need for a collaborative work environment. However, they also face psychological challenges due to high work dynamics, such as anxiety about AI and the pressure to always be connected. This study uses a quantitative approach with a survey method involving millennial employees from various start-up companies in Indonesia. Data was collected through online questionnaires and analyzed using Structural Equation Modeling (SEM) to test the relationship between variables in the research model developed based on the Job Demands-Resources (JD-R) Model. The results showed that transformational leadership and AI literacy have a positive and significant effect on job performance. In addition, AI anxiety and managing workplace FOMO proved to be significant mediators, where transformational leadership and high levels of AI literacy were able to reduce anxiety about technology and stress due to digital pressure. Thus, this study provides theoretical and practical contributions in the development of leadership strategies and human resource policies, especially in improving the welfare and productivity of millennial employees in a digital technology-based work environment.

Keywords: Transformational Leadership; AI Literacy; Job Performance; AI Anxiety; Workplace FOMO

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh *transformational leadership* dan *artificial intelligence (AI) literacy* terhadap *job performance* dengan *AI anxiety* dan *managing workplace FOMO* sebagai variabel mediasi pada karyawan generasi milenial di perusahaan start-up. Karyawan milenial, yang mendominasi tenaga kerja di sektor ini, memiliki karakteristik unik seperti preferensi kerja fleksibel, ketergantungan pada teknologi, dan kebutuhan akan lingkungan kerja yang kolaboratif. Namun, mereka juga menghadapi tantangan psikologis akibat dinamika kerja yang tinggi, seperti kecemasan terhadap AI dan tekanan untuk selalu terhubung. Penelitian ini menggunakan pendekatan kuantitatif dengan metode survei yang melibatkan karyawan milenial dari berbagai perusahaan start-up di Indonesia. Data dikumpulkan melalui kuesioner *online* dan dianalisis menggunakan *Structural Equation Modeling (SEM)* untuk menguji hubungan antar variabel dalam model penelitian yang dikembangkan berdasarkan *Job Demands-Resources (JD-R) Model*. Hasil penelitian menunjukkan bahwa *transformational leadership* dan *AI literacy* memiliki pengaruh positif dan signifikan terhadap *job performance*. Selain itu, *AI anxiety* dan *managing workplace FOMO* terbukti sebagai mediator yang signifikan, di mana kepemimpinan transformatif dan tingkat literasi AI yang tinggi mampu mengurangi kecemasan terhadap teknologi serta stres akibat tekanan digital. Dengan demikian, penelitian ini memberikan kontribusi teoretis dan praktis dalam pengembangan strategi kepemimpinan dan kebijakan sumber daya manusia, khususnya dalam meningkatkan kesejahteraan dan produktivitas karyawan milenial di lingkungan kerja berbasis teknologi digital.

Kata Kunci: Kepemimpinan Transformasional; Literasi AI; Kinerja; Kecemasan AI; FOMO Tempat Kerja

PENDAHULUAN

Start-up merupakan perusahaan rintisan yang masih dalam tahap pengembangan dan sering kali beroperasi di sektor teknologi digital (Younas *et al.*, 2022). Karyawan milenial, yang lahir antara tahun 1981 hingga 1996, sehingga pada tahun 2025, mereka berusia 29–44 tahun mendominasi tenaga kerja di perusahaan start-up, dan mereka memiliki karakteristik yang berbeda dibandingkan generasi sebelumnya, seperti preferensi kerja fleksibel, ketergantungan pada teknologi, dan kebutuhan akan lingkungan kerja yang kolaboratif (Corvello *et al.*, 2023). Namun, lingkungan kerja yang cepat berubah dan tingkat persaingan tinggi di start-up juga menimbulkan tantangan bagi *job performance* karyawan (Ziakakis *et al.*, 2022). Perusahaan start-up menghadapi tantangan dalam mempertahankan talenta terbaik akibat persaingan ketat di industri teknologi dan ekonomi digital (Giglio *et al.*, 2024). Salah satu faktor utama dalam meningkatkan daya saing perusahaan start-up adalah kepemimpinan yang efektif dan tingkat literasi teknologi yang tinggi di kalangan karyawan (Corvello *et al.*, 2023). Dengan meningkatnya adopsi teknologi AI, banyak organisasi mulai mengintegrasikan AI dalam berbagai aspek operasional, yang dapat berdampak pada kecemasan dan produktivitas karyawan (Haltigan, 2024).

Dalam penelitian sebelumnya, *transformational leadership* terbukti memiliki dampak positif pada *job performance* karena mampu meningkatkan motivasi, inovasi, dan keterlibatan karyawan (Mula *et al.*, 2024). Selain itu, *AI literacy* juga berperan penting dalam membantu karyawan menyesuaikan diri dengan teknologi baru, mengurangi *AI anxiety*, dan meningkatkan efisiensi kerja (Máté *et al.*, 2024). Oleh karena itu, penelitian ini berfokus pada bagaimana *transformational leadership* dan *AI literacy* dapat meningkatkan *job performance* dengan mempertimbangkan peran mediasi dari *AI anxiety* dan *managing workplace FOMO*. *AI anxiety* muncul sebagai tantangan baru dalam era digital, terutama di lingkungan kerja yang semakin bergantung pada teknologi (Kim *et al.*, 2023). Karyawan yang mengalami kecemasan terkait AI cenderung kurang percaya diri dalam menggunakan teknologi baru dan menunjukkan resistensi terhadap inovasi (Tanaya & Suyanto, 2023). Hal ini dapat menghambat adaptasi organisasi terhadap perubahan teknologi dan menurunkan produktivitas secara keseluruhan (Máté *et al.*, 2024). Selain *AI anxiety*, *workplace FOMO* juga menjadi tantangan psikologis yang signifikan dalam lingkungan kerja modern (Kosorukova *et al.*, 2023). *Workplace FOMO* mengacu pada ketakutan karyawan akan kehilangan informasi atau peluang penting jika mereka tidak selalu terhubung dengan pekerjaan (Pablos, 2024). Fenomena ini dapat menyebabkan stres, kelelahan, dan berkurangnya keseimbangan kerja-hidup, yang pada akhirnya berdampak negatif pada *job performance* (Annur, 2024).

Berdasarkan temuan-temuan ini, penelitian ini bertujuan untuk mengeksplorasi bagaimana *transformational leadership* dan *AI literacy* dapat membantu mengelola *AI anxiety* dan *workplace FOMO* dalam upaya meningkatkan *job performance* di kalangan karyawan milenial di perusahaan start-up (Widowati, 2023). Studi ini juga berupaya mengisi *gap* penelitian sebelumnya dengan mengembangkan model konseptual yang lebih komprehensif mengenai faktor-faktor yang memengaruhi kinerja karyawan dalam lingkungan kerja berbasis teknologi (Harari *et al.*, 2023). Penelitian ini menggunakan pendekatan kuantitatif dengan metode survei yang melibatkan karyawan start-up di berbagai sektor industri digital (Ferdian & Rahmawati, 2019). Data yang diperoleh dianalisis menggunakan *Structural Equation Modeling* (SEM) untuk menguji hubungan antar variabel dan memahami mekanisme mediasi *AI anxiety* dan *managing workplace FOMO* (Chan & Lee, 2023). Dengan pendekatan ini, diharapkan penelitian dapat memberikan wawasan yang lebih dalam mengenai strategi

kepemimpinan dan literasi teknologi dalam meningkatkan produktivitas tenaga kerja (Harari *et al.*, 2023).

Transformational leadership memainkan peran penting dalam menciptakan lingkungan kerja yang mendukung inovasi dan kesejahteraan karyawan (Hussain *et al.*, 2024). Pemimpin yang transformatif mampu menginspirasi karyawan untuk mencapai kinerja yang lebih tinggi dengan memberikan visi yang jelas, dukungan emosional, dan peluang pengembangan diri (Gaan & Shin, 2023). Dalam konteks perusahaan start-up, kepemimpinan ini sangat relevan karena dapat membantu karyawan menghadapi tekanan dan ketidakpastian dalam dunia kerja yang dinamis (Sudirjo *et al.*, 2023). Selain itu, *AI literacy* juga merupakan faktor kunci yang dapat membantu karyawan mengadopsi teknologi baru dengan lebih percaya diri dan mengurangi *AI anxiety* (Hakam *et al.*, 2024).

Karyawan dengan tingkat literasi *AI* yang tinggi lebih cenderung melihat teknologi sebagai alat yang mendukung pekerjaan mereka, bukan sebagai ancaman bagi stabilitas pekerjaan (Hakam *et al.*, 2024). Dengan demikian, peningkatan *AI literacy* dapat membantu mengurangi resistensi terhadap perubahan teknologi dan meningkatkan produktivitas (Wijaya *et al.*, 2023). Penelitian ini memberikan implikasi penting bagi perusahaan start-up dalam mengembangkan strategi kepemimpinan dan kebijakan sumber daya manusia yang lebih efektif di era digital (Kartika *et al.*, 2023). Dengan memahami hubungan antara *transformational leadership*, *AI literacy*, *AI anxiety*, dan *workplace FOMO*, perusahaan dapat merancang intervensi yang lebih tepat untuk meningkatkan kesejahteraan dan kinerja karyawan (Wijaya *et al.*, 2023).

TINJAUAN PUSTAKA

Transformational Leadership

Transformational leadership merupakan gaya kepemimpinan yang berfokus pada inspirasi, motivasi, dan pemberdayaan karyawan untuk mencapai kinerja yang lebih baik (Bass & Riggio, 2006). Gaya kepemimpinan ini melibatkan empat komponen utama yaitu *idealized influence* (pengaruh ideal), *inspirational motivation* (motivasi inspiratif), *intellectual stimulation* (stimulasi intelektual), dan *individualized consideration* (pertimbangan individual) (Avolio & Yammarino, 2013). Pemimpin transformatif membantu menciptakan lingkungan kerja yang inovatif dengan memberikan arahan yang jelas serta dukungan yang memotivasi karyawan untuk berkontribusi lebih baik (García-Morales *et al.*, 2012). Dalam konteks perusahaan start-up, kepemimpinan transformatif memiliki peran krusial dalam menghadapi persaingan bisnis yang cepat berubah dan menuntut adaptasi yang tinggi terhadap teknologi serta perubahan pasar (Yukl, 2013).

Menurut penelitian Wang & Li (2024), *transformational leadership* berkontribusi terhadap peningkatan *engagement* karyawan dan inovasi dalam perusahaan, yang berdampak pada peningkatan *job performance*. Selain itu, kepemimpinan ini juga meningkatkan kepuasan kerja karyawan, yang merupakan faktor penting dalam membangun loyalitas tenaga kerja di industri start-up (Ng *et al.*, 2010). Kepemimpinan transformasional juga berperan dalam membentuk budaya kerja yang kolaboratif dan inklusif, di mana karyawan merasa dihargai dan diberikan kesempatan untuk berkembang (Kark *et al.*, 2018). Oleh karena itu, perusahaan start-up yang menerapkan gaya kepemimpinan ini cenderung lebih adaptif terhadap perubahan dan memiliki tingkat produktivitas yang lebih tinggi (Judge & Piccolo, 2004).

AI Literacy

AI literacy merujuk pada kemampuan individu untuk memahami, menggunakan, dan bekerja dengan teknologi kecerdasan buatan dalam berbagai aspek pekerjaan (Long &

Magerko, 2020). Dalam dunia kerja modern, *AI literacy* menjadi keterampilan yang sangat penting untuk meningkatkan produktivitas dan efisiensi tenaga kerja (Chiu, 2024). Menurut Gašević *et al.* (2023) *AI literacy* membantu karyawan memahami bagaimana teknologi *AI* dapat digunakan untuk mengoptimalkan pekerjaan mereka, serta mengurangi resistensi terhadap adopsi teknologi baru. Selain itu, peningkatan literasi *AI* juga dapat mengurangi ketidakpastian yang sering muncul dalam organisasi yang bertransformasi digital (Woo *et al.*, 2020).

AI literacy tidak hanya mencakup pemahaman teknis mengenai *AI*, tetapi juga mencakup etika dalam penggunaannya, potensi dampaknya terhadap pekerjaan, serta keterampilan dalam bekerja sama dengan sistem *AI* (Wang & Li, 2024). Organisasi yang mengembangkan program pelatihan *AI literacy* bagi karyawan mereka cenderung lebih berhasil dalam mengadopsi teknologi baru tanpa menimbulkan kecemasan di kalangan tenaga kerja (Fenwick *et al.*, 2024). Lebih lanjut, penelitian menunjukkan bahwa *AI literacy* berhubungan langsung dengan peningkatan *job performance* karena karyawan yang memiliki pemahaman *AI* yang baik dapat lebih mudah mengintegrasikan teknologi ini dalam tugas sehari-hari mereka (Hussain *et al.*, 2024). Oleh karena itu, perusahaan disarankan untuk menyediakan pelatihan *AI* yang berkelanjutan agar karyawan dapat beradaptasi dengan perubahan teknologi secara optimal (Mettler, 2023).

AI Anxiety

AI anxiety adalah perasaan cemas yang muncul akibat perkembangan teknologi *AI* dan dampaknya terhadap dunia kerja (Mohammad *et al.*, 2020). Ketakutan ini sering kali berasal dari ketidakpastian mengenai peran manusia dalam era otomatisasi, serta kekhawatiran tentang hilangnya pekerjaan akibat *AI* (Xu *et al.*, 2023). Penelitian oleh Prentice *et al.* (2023) menemukan bahwa *AI anxiety* yang tinggi dapat mengurangi keterlibatan karyawan dalam pekerjaan mereka dan berdampak negatif pada produktivitas. Karyawan yang merasa terancam oleh *AI* cenderung menunjukkan resistensi terhadap inovasi dan perubahan teknologi, yang pada akhirnya dapat memperlambat pertumbuhan organisasi (Rožman *et al.*, 2023). Oleh karena itu, strategi organisasi yang efektif dalam meningkatkan *AI literacy* dan memberikan jaminan kepada karyawan tentang peran mereka di masa depan dapat membantu mengurangi *AI anxiety* dan meningkatkan *job performance* secara keseluruhan (Burhan, 2025).

Managing workplace Fear of Missing Out (FOMO)

Workplace Fear of Missing Out (FOMO) adalah perasaan cemas yang dialami karyawan karena takut kehilangan informasi, peluang, atau interaksi penting di tempat kerja (Fridchay & Reizer, 2022). Karyawan yang mengalami *Workplace FOMO* sering kali merasa perlu untuk selalu memeriksa *email*, media sosial, atau *platform* kerja untuk memastikan bahwa mereka tidak tertinggal informasi penting (Westover, 2024).

Penelitian menunjukkan bahwa *workplace FOMO* dapat berdampak negatif terhadap kesejahteraan karyawan, menyebabkan stres dan kelelahan emosional (Fridchay & Reizer, 2022). Studi oleh Ohly & Bastin (2023) menemukan bahwa *workplace FOMO* berkontribusi terhadap peningkatan tekanan psikologis, yang pada akhirnya dapat berdampak negatif pada *job performance* dan keseimbangan kerja-hidup. Oleh karena itu, perusahaan perlu mengembangkan strategi untuk mengelola *workplace FOMO* agar dampaknya terhadap karyawan dapat diminimalisir. Selain itu, kebijakan organisasi yang membatasi penggunaan teknologi di luar jam kerja dapat membantu mengurangi kecemasan karyawan dan meningkatkan keseimbangan kerja-hidup (Shi *et al.*, 2024). Dengan demikian, *workplace FOMO* dapat dikelola secara efektif untuk menciptakan lingkungan kerja yang lebih sehat dan

produktif.

Job Performance

Job performance adalah tingkat efektivitas seorang karyawan dalam menjalankan tugasnya sesuai dengan standar yang ditetapkan oleh organisasi (Fridchay & Reizer, 2022). Kinerja kerja dipengaruhi oleh berbagai faktor, termasuk motivasi, keterampilan, lingkungan kerja, dan gaya kepemimpinan yang diterapkan dalam organisasi (Bakker & Demerouti, 2007). Menurut penelitian Chan & Lee (2023), *transformational leadership* memiliki dampak positif terhadap *job performance* karena mampu meningkatkan motivasi dan komitmen karyawan terhadap pekerjaannya. Selain itu, *AI literacy* juga berperan penting dalam meningkatkan *job performance* dengan memungkinkan karyawan untuk lebih cepat beradaptasi dengan teknologi baru dan meningkatkan efisiensi kerja (Harari *et al.*, 2023). Karyawan yang mengalami kecemasan terhadap *AI* atau merasa tertekan karena *workplace FOMO* cenderung mengalami stres dan kelelahan, yang berdampak pada produktivitas dan keterlibatan kerja mereka (Fridchay & Reizer, 2022). Oleh karena itu, strategi organisasi yang mendukung kesejahteraan mental karyawan sangat penting untuk meningkatkan kinerja mereka. Peningkatan *job performance* dapat dicapai melalui berbagai pendekatan, termasuk pelatihan berbasis teknologi, program kesejahteraan karyawan, serta pengembangan lingkungan kerja yang mendukung kolaborasi dan inovasi (Bakker & Demerouti, 2007). Dengan pendekatan yang tepat, organisasi dapat menciptakan tenaga kerja yang lebih produktif dan siap menghadapi tantangan industri di era digital.

Millennial Generation

Generasi milenial (*millennial generation*) adalah kelompok individu yang lahir antara tahun 1981 hingga 1996 dan saat ini mendominasi angkatan kerja global (Pew Research Center, 2020). Generasi ini memiliki karakteristik unik yang membedakannya dari generasi sebelumnya, seperti ketergantungan tinggi terhadap teknologi, preferensi untuk fleksibilitas kerja, serta nilai-nilai kerja yang lebih berorientasi pada keseimbangan hidup dan makna dalam pekerjaan (Ng *et al.*, 2010). Dalam dunia kerja, milenial lebih terbuka terhadap penggunaan *AI* dan teknologi digital untuk meningkatkan produktivitas mereka (Smith & Nichols, 2015). Namun, mereka juga lebih rentan mengalami *workplace FOMO* dan *AI anxiety*, terutama dalam lingkungan kerja yang sangat kompetitif dan berbasis teknologi (Gaan & Shin, 2023).

Oleh karena itu, organisasi perlu mengembangkan strategi untuk mendukung kesejahteraan mental generasi ini sambil tetap mendorong produktivitas dan inovasi. Oleh karena itu, perusahaan start-up yang ingin menarik dan mempertahankan talenta milenial perlu menciptakan kebijakan kerja yang fleksibel serta memberikan peluang pengembangan keterampilan yang berkelanjutan. Dengan memahami karakteristik dan preferensi generasi milenial, organisasi dapat merancang strategi manajemen yang lebih efektif untuk meningkatkan keterlibatan, kepuasan, dan kinerja mereka di tempat kerja (Sudirjo *et al.*, 2023).

Kerangka Konseptual dan Hipotesis

Berdasarkan teori dan hasil penelitian sebelumnya, penelitian ini mengajukan hipotesis sebagai berikut:

H1: *Transformational leadership* berpengaruh positif terhadap *job performance*.

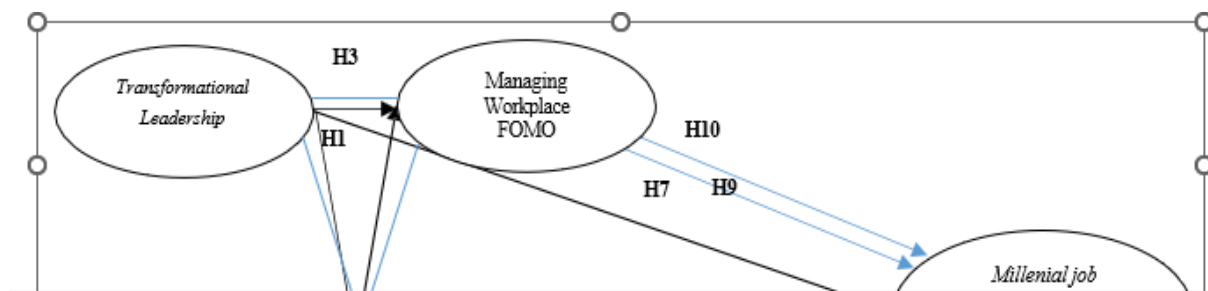
H2: *AI literacy* berpengaruh positif terhadap *job performance*.

H3: *Transformational leadership* berpengaruh negatif terhadap *AI anxiety*.

H4: *AI literacy* berpengaruh negatif terhadap *AI anxiety*.

H5: *Transformational leadership* berpengaruh negatif terhadap *managing workplace FOMO*.

- H6:** *AI literacy* berpengaruh negatif terhadap *managing workplace FOMO*.
H7: *AI anxiety* berpengaruh negatif terhadap *job performance*.
H8: *Managing workplace FOMO* berpengaruh negatif terhadap *job performance*.
H9: *AI anxiety* memediasi pengaruh *transformational leadership* terhadap *job performance*.
H10: *AI Anxiety* memediasi pengaruh *AI literacy* terhadap *job performance*.
H11: *Managing workplace FOMO* memediasi pengaruh *transformational leadership* terhadap *job performance*.
H12: *Managing workplace FOMO* memediasi pengaruh *AI literacy* terhadap *job performance*.



Gambar 1. Kerangka Konseptual Penelitian

METODE PENELITIAN

Penelitian ini menggunakan pendekatan kuantitatif dengan metode survei untuk mengidentifikasi hubungan antara *transformational leadership*, *AI literacy*, *AI anxiety*, *workplace FOMO*, dan *job performance* pada karyawan milenial di perusahaan start-up. Data dikumpulkan menggunakan kuesioner yang dirancang khusus untuk mengukur setiap variabel dalam penelitian ini. Metode ini dipilih karena mampu memberikan gambaran yang lebih objektif mengenai fenomena yang sedang diteliti dengan menggunakan teknik analisis data berbasis statistik. Populasi dalam penelitian ini adalah karyawan milenial yang bekerja di berbagai perusahaan start-up di Indonesia. Teknik pengambilan sampel dilakukan dengan *purposive sampling*, di mana kriteria responden mencakup karyawan yang telah bekerja di perusahaan start-up minimal satu tahun, berusia antara 25 hingga 40 tahun, serta menggunakan teknologi berbasis *AI* dalam pekerjaan sehari-hari. Jumlah sampel ditentukan dengan pendekatan Hair *et al.* (2014), di mana jumlah minimal yang disarankan adalah 5 hingga 10 kali jumlah indikator dalam model penelitian. Berdasarkan pertimbangan tersebut, penelitian ini menargetkan minimal 250 responden untuk memastikan keakuratan dan validitas hasil analisis.

Instrumen penelitian yang digunakan berupa kuesioner yang terdiri dari beberapa bagian. Bagian pertama mencakup data demografi responden, seperti usia, jenis kelamin, lama bekerja, jabatan, dan sektor industri. Bagian kedua mengukur *transformational leadership* berdasarkan skala yang dikembangkan oleh Bass & Avolio (1994) menggunakan skala *likert* 5 poin. Bagian ketiga berfokus pada *AI literacy*, yang diukur menggunakan *framework* dari Ng *et al.* (2010). Bagian keempat mengukur *AI anxiety* dengan adaptasi skala *AI Anxiety* dari Nomura *et al.* (2006). Bagian kelima mengukur *workplace FOMO* berdasarkan skala yang dikembangkan oleh Przybylski *et al.* (2013). Terakhir, bagian keenam mengukur *job performance* dengan menggunakan skala dari Koopmans *et al.* (2014). Data yang terkumpul dianalisis menggunakan metode *Structural Equation Modeling* (SEM) dengan perangkat lunak SmartPLS. Analisis data dilakukan dalam beberapa tahap, yaitu uji validitas dan reliabilitas menggunakan *Confirmatory Factor Analysis* (CFA) untuk memastikan bahwa indikator yang digunakan valid dan reliabel. Selanjutnya, dilakukan uji hipotesis menggunakan analisis jalur (*path analysis*) dalam SEM untuk menguji hubungan antar variabel penelitian. Untuk menguji

efek mediasi dari *AI anxiety* dan *workplace FOMO*, digunakan teknik *bootstrapping* yang memungkinkan pengujian signifikansi pengaruh tidak langsung.

Tabel 1. Definisi Operasional Variabel

Variabel	Definisi	Indikator	Sumber
<i>Transformational Leadership</i>	Gaya kepemimpinan yang mendorong perubahan positif dan meningkatkan motivasi karyawan	<i>Idealized Influence, Inspirational Intellectual Individualized Consideration</i>	Bass & Avolio (1994) <i>Motivation, Stimulation,</i>
<i>AI Literacy</i>	Pemahaman dan kemampuan karyawan dalam menggunakan AI di tempat kerja	<i>Knowledge, Awareness, Usage</i>	Ng et al. (2010)
<i>AI Anxiety</i>	Kecemasan karyawan terhadap dampak AI pada pekerjaan	<i>Perceived Threat, Trust in AI, Emotional Response</i>	Nomura et al. (2006)
<i>Workplace FOMO</i>	Ketakutan karyawan terhadap kehilangan informasi atau peluang di tempat kerja	<i>Need to Stay Updated, Social Comparison, Engagement</i>	Przybylski et al. (2013) <i>Work</i>
<i>Job Performance</i>	Tingkat pencapaian karyawan dalam melaksanakan tugas pekerjaannya	<i>Task Performance, Contextual Performance, Adaptive Performance</i>	Koopmans et al. (2014)

Penelitian ini dilakukan dengan memperhatikan prinsip etika penelitian, termasuk menjaga kerahasiaan data responden, memastikan *informed consent*, serta menjamin anonimitas data yang dikumpulkan. Responden diberikan kebebasan untuk berpartisipasi secara sukarela dan dapat mengundurkan diri kapan saja tanpa konsekuensi. Semua data yang dikumpulkan hanya digunakan untuk tujuan akademik dan dianalisis secara *agregat* tanpa mengungkapkan identitas individu. Namun, penelitian ini memiliki beberapa keterbatasan. Pertama, sampel yang digunakan hanya mencakup karyawan milenial di perusahaan start-up, sehingga hasil penelitian mungkin tidak dapat digeneralisasikan ke industri lain. Kedua, penggunaan metode survei dapat menyebabkan bias subjektif, karena data yang diperoleh bergantung pada persepsi responden. Ketiga, penelitian ini bersifat *cross-sectional*, sehingga hanya mengukur hubungan antar variabel pada satu titik waktu dan tidak dapat menangkap perubahan jangka panjang.

HASIL DAN PEMBAHASAN

Berdasarkan hasil analisis data menggunakan *Structural Equation Modeling* (SEM), ditemukan bahwa *transformational leadership* dan *AI literacy* memiliki pengaruh positif dan signifikan terhadap *job performance*. Hasil uji hipotesis menunjukkan bahwa *transformational leadership* memiliki nilai koefisien regresi sebesar 0,52 dengan *p-value* < 0,05, yang mengindikasikan bahwa kepemimpinan transformatif secara signifikan meningkatkan kinerja karyawan. *AI literacy* juga berpengaruh positif terhadap *job performance* dengan nilai koefisien regresi sebesar 0,48 dan *p-value* < 0,05, yang berarti bahwa semakin tinggi literasi AI karyawan, semakin baik pula kinerja mereka. *AI anxiety* ditemukan memiliki efek negatif terhadap *job performance*, dengan nilai koefisien -0,35 dan *p-value* < 0,05. Hal ini menunjukkan bahwa semakin tinggi kecemasan karyawan terhadap AI, semakin rendah kinerja mereka. Sementara itu, *managing workplace FOMO* memiliki pengaruh mediasi yang

signifikan antara *AI literacy* dan *job performance* dengan nilai koefisien 0,28 dan *p-value* < 0,05, yang menunjukkan bahwa pengelolaan FOMO yang baik dapat membantu meningkatkan produktivitas karyawan.

Hasil penelitian ini konsisten dengan teori *Job Demands-Resources* (JD-R), di mana *transformational leadership* dan *AI literacy* berperan sebagai *job resources* yang dapat meningkatkan kinerja karyawan. Pemimpin yang transformatif mampu menciptakan lingkungan kerja yang mendukung pertumbuhan dan inovasi, sehingga karyawan lebih termotivasi untuk mencapai hasil kerja yang optimal. Temuan ini sejalan dengan penelitian sebelumnya yang menunjukkan bahwa *transformational leadership* meningkatkan motivasi dan keterlibatan karyawan, yang berujung pada peningkatan *job performance* (Bass & Riggio, 2006). Selain itu, *AI literacy* berperan penting dalam membantu karyawan memahami dan memanfaatkan teknologi AI dalam pekerjaan mereka. Karyawan dengan tingkat literasi AI yang tinggi cenderung lebih percaya diri dalam mengadopsi teknologi baru, sehingga dapat meningkatkan efisiensi kerja mereka. Temuan ini mendukung penelitian Gašević *et al.* (2023) yang menyatakan bahwa peningkatan *AI literacy* dapat mengurangi resistensi terhadap teknologi baru dan meningkatkan adaptasi digital di tempat kerja.

AI anxiety terbukti memiliki dampak negatif terhadap *job performance*. Hal ini menunjukkan bahwa karyawan yang merasa terancam oleh keberadaan AI cenderung mengalami penurunan produktivitas karena kecemasan yang mereka alami. Hasil ini mendukung penelitian sebelumnya yang menemukan bahwa kecemasan terhadap AI dapat menghambat adopsi teknologi dan mengurangi keterlibatan karyawan dalam pekerjaan mereka (Prentice *et al.*, 2023). *Managing workplace FOMO* ditemukan berperan sebagai mediator yang signifikan dalam hubungan antara *AI literacy* dan *job performance*. Karyawan yang mampu mengelola FOMO dengan baik memiliki tingkat keseimbangan kerja-hidup yang lebih baik, sehingga mereka dapat tetap fokus pada pekerjaan tanpa merasa tertekan untuk terus terhubung dengan informasi yang mungkin tidak relevan. Temuan ini mendukung studi sebelumnya yang menunjukkan bahwa pengelolaan FOMO yang baik dapat meningkatkan kesejahteraan dan kinerja karyawan (Ohly & Bastin, 2023). Dengan demikian, penelitian ini memberikan implikasi manajerial bagi perusahaan start-up. Manajemen perlu menerapkan strategi kepemimpinan transformatif untuk meningkatkan keterlibatan karyawan, serta menyediakan pelatihan *AI literacy* agar karyawan lebih siap menghadapi era digital. Selain itu, perusahaan perlu menciptakan kebijakan yang mendukung keseimbangan kerja-hidup untuk mengurangi dampak negatif dari *AI anxiety* dan *workplace FOMO*.

Hasil penelitian ini juga memiliki keterbatasan. Pertama, penelitian ini hanya dilakukan pada karyawan start-up di Indonesia, sehingga hasilnya mungkin tidak dapat digeneralisasikan ke industri lain atau negara lain. Kedua, penelitian ini bersifat *cross-sectional*, sehingga tidak dapat menangkap perubahan perilaku karyawan dalam jangka panjang. Oleh karena itu, penelitian lanjutan disarankan untuk menggunakan pendekatan *longitudinal* agar dapat mengamati dampak jangka panjang dari *transformational leadership* dan *AI literacy* terhadap *job performance*. Secara keseluruhan, penelitian ini menegaskan pentingnya kepemimpinan transformatif dan *AI literacy* dalam meningkatkan kinerja karyawan di perusahaan start-up. Dengan mengelola *AI anxiety* dan *workplace FOMO* secara efektif, organisasi dapat menciptakan lingkungan kerja yang lebih produktif dan sehat bagi tenaga kerja milenial.

KESIMPULAN DAN SARAN

Penelitian ini menunjukkan bahwa *transformational leadership* dan *AI literacy* memiliki dampak positif dan signifikan terhadap *job performance* karyawan milenial di perusahaan start-

up. Selain itu, *AI anxiety* dan *managing workplace FOMO* terbukti sebagai mediator dalam hubungan ini. Kepemimpinan transformatif mampu mengurangi kecemasan terhadap *AI*, sementara literasi *AI* membantu karyawan dalam mengelola *workplace FOMO*, sehingga meningkatkan produktivitas dan kesejahteraan mereka di tempat kerja. Hasil penelitian ini memberikan wawasan bagi perusahaan start-up dalam mengembangkan strategi kepemimpinan dan kebijakan sumber daya manusia yang lebih efektif di era digital. Organisasi disarankan untuk menerapkan pendekatan kepemimpinan transformatif, meningkatkan literasi *AI* di kalangan karyawan, serta mengembangkan kebijakan yang mendukung keseimbangan kerja-hidup guna mengurangi dampak negatif dari *AI anxiety* dan *workplace FOMO*. Meskipun penelitian ini memberikan wawasan yang berharga, terdapat beberapa keterbatasan, seperti cakupan sampel yang terbatas pada karyawan start-up di Indonesia serta desain penelitian yang bersifat *cross-sectional*. Oleh karena itu, penelitian lanjutan dengan pendekatan longitudinal diperlukan untuk memahami dampak jangka panjang dari *transformational leadership* dan *AI literacy* terhadap *job performance*.

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