

CORPORATE AI ADOPTION AND FINANCIAL RISK: THE MEDIATING ROLE OF CASH HOLDING BEHAVIOR

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Abstract

This study aims to analyze the effect of Artificial Intelligence (AI) adoption on corporate financial risk by considering the mediating role of cash holding behavior. The study employed a quantitative approach using secondary data derived from annual reports of non-financial companies listed on the Indonesia Stock Exchange during 2022–2024. The sample was selected using purposive sampling, resulting in 33 companies with 99 observations. AI adoption was measured using annual report text analysis, financial risk was proxied by stock return volatility, while cash holding behavior was measured using the ratio of cash to total assets. Data analysis was conducted using panel data regression with the Common Effect Model (CEM) and mediation testing. The findings reveal that AI adoption has not directly reduced corporate financial risk. However, AI adoption positively affects corporate cash holding behavior. Furthermore, cash holding behavior significantly reduces corporate financial risk. Nevertheless, cash holding behavior is unable to mediate the relationship between AI adoption and corporate financial risk. These findings indicate that AI implementation has not been fully integrated into corporate financial risk management. This study contributes to the literature on corporate AI and corporate financial policy in the context of developing countries.

Keywords: Artificial Intelligence, Cash Holding Behavior, Financial Risk, Non-Financial Companies, Panel Data

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1. Introduction

The rapid advancement of artificial intelligence (AI) has become a major catalyst for digital transformation at the corporate level across various countries. The integration of AI into operational activities, data management, and strategic decision-making enables firms to enhance efficiency, productivity, and the quality of risk management with greater accuracy and speed (Brynjolfsson et al.,

2023; Giraud et al., 2023). From a corporate finance perspective, AI implementation improves the quality of both internal and external information, thereby reducing information asymmetry, enhancing investment efficiency, and strengthening firms' ability to predict and manage financial uncertainty (Aghion et al., 2017; H. Xu et al., 2024). Consequently, corporate artificial intelligence has the potential to serve as a strategic instrument for mitigating corporate financial risk.

Several recent studies have begun to examine the relationship between AI adoption and corporate financial risk. For instance, Xin (2025) found that AI implementation significantly reduces firms' financial risk by improving operational efficiency and alleviating financing constraints. Similarly, Liu et al. (2025) reported that AI enhances firms' capability to identify potential financial distress through data-driven risk monitoring and predictive analytics. These findings suggest that AI contributes to stronger corporate resilience by improving decision quality, resource allocation, and risk identification. However, despite this growing body of literature, empirical evidence remains limited regarding the internal financial mechanisms through which AI influences corporate financial risk.

Despite its potential benefits, AI investment also entails substantial financial challenges. The implementation of AI technologies requires significant initial expenditures, digital infrastructure development, system integration, and specialized human resources (Helo & Hao, 2022; Alzayed et al., 2024). As a result, firms must possess sufficient liquidity capacity and financial flexibility to sustain technology investments. In this context, cash holding behavior becomes particularly important, as corporate cash reserves function as a financial buffer against investment uncertainty and operational risks (Bates et al., 2009). Firms with optimal levels of cash holdings are generally better positioned to support digital transformation initiatives without imposing excessive financial risk.

Empirical evidence suggests that AI adoption can reduce corporate financial risk through improvements in operational efficiency, investment decision optimization, and enhanced risk management capabilities (Xin, 2025; Liu et al., 2025). However, the mechanisms underlying this relationship remain relatively underexplored. Previous studies have predominantly focused on financing constraints as a mediating variable linking AI adoption and corporate financial risk (Xin, 2025). In contrast, corporate finance theory emphasizes the critical role of cash holding behavior in determining a firm's financial resilience,

particularly under conditions of economic uncertainty and intensive technological transformation (Opler et al., 1999; Bates et al., 2009). Adequate cash reserves enable firms to finance technological innovation internally, reduce dependence on external financing, and increase flexibility in responding to financial risks.

In Indonesia, digital transformation and AI adoption have accelerated considerably following government initiatives to strengthen the national digital economy through the National Strategy for Artificial Intelligence (Badan Pengkajian dan Penerapan Teknologi, 2020). Non-financial firms have increasingly invested in AI-based technologies to enhance competitiveness and operational efficiency. Nevertheless, Indonesia's capital market and financing system continue to be characterized by economic uncertainty, limited access to financing, and volatile corporate cash flows (Dinamika Ekonomi Pembangunan & Muhammad Arie, 2021). These conditions make corporate cash-holding decisions increasingly strategic, particularly in supporting AI investments while maintaining financial stability.

Cash holding behavior is especially relevant in the Indonesian context, where firms tend to retain larger cash reserves as a precautionary response to economic uncertainty and limited access to external financing (Bates et al., 2009). On the one hand, higher cash holdings may enhance firms' capacity to support AI investments and maintain liquidity. On the other hand, excessive cash reserves may generate agency problems and inefficient asset utilization (Jensen, 1986). Therefore, the relationship among corporate artificial intelligence, cash holding behavior, and corporate financial risk remains an important issue requiring further empirical investigation, particularly in emerging economies such as Indonesia.

This study is strategically important because research integrating corporate artificial intelligence and cash holding behavior in explaining corporate financial risk remains limited. Most prior studies have focused on the effects of AI on productivity, operational efficiency, and firm performance, while relatively few have examined AI as a determinant of financial risk through the mechanism of corporate cash policies (Brynjolfsson et al., 2023; Liu et al., 2025). Moreover, existing empirical evidence is largely concentrated in developed economies and has paid limited attention to firms operating in developing countries with distinct financial market structures, such as Indonesia. Accordingly, this study seeks to provide more context-specific empirical

evidence regarding how AI influences corporate financial risk through cash holding behavior.

The primary issue motivating this research is the uncertainty faced by Indonesian non-financial firms in simultaneously determining AI investment strategies and corporate cash management policies. Firms are under increasing pressure to pursue digital transformation in order to remain competitive while also maintaining liquidity stability and managing financial risks prudently. AI investments require substantial and potentially risky expenditures, making it essential for firms to determine optimal levels of cash holdings to ensure that such investments do not inadvertently increase financial pressure (Danielsson et al., 2022; Vuković et al., 2025). To date, robust empirical evidence remains scarce regarding whether AI implementation can reduce corporate financial risk through more effective cash management practices in Indonesia.

To address this issue, this study employs a quantitative approach using panel data from non-financial firms listed on the Indonesia Stock Exchange. The study develops a conceptual framework explaining how corporate artificial intelligence influences corporate financial risk through the mechanism of cash holding behavior. Empirical analysis is conducted using panel data regression and mediation testing to systematically examine the causal pathways among the variables. This approach is expected to generate an applicable empirical model that can support managerial decision-making regarding AI investment strategies and corporate cash management policies.

This study offers several important contributions. First, it positions corporate artificial intelligence as a determinant of corporate financial risk through the mediating mechanism of cash holding behavior, an area that remains relatively underexplored in the existing literature. Second, the study focuses on non-financial firms in Indonesia, thereby contributing empirical evidence from a developing-country context with capital market characteristics that differ from those of developed economies. Third, AI adoption is measured using a textual analysis approach based on firms' annual reports, enabling a more representative assessment of AI implementation levels. Therefore, this study is expected to provide theoretical, methodological, and practical contributions to the literature on corporate finance and digital transformation, while also offering insights for regulators and firms seeking to strengthen financial resilience in the digital economy era. Fourth, this study extends the existing literature by providing empirical evidence from an emerging economy where digital transformation,

financial market development, and institutional characteristics differ substantially from those of developed countries. The findings therefore contribute to improving the external validity of previous AI-finance studies and provide practical implications for policymakers and corporate managers in emerging markets seeking to strengthen financial resilience through AI-driven digital transformation.

2. Research Method

Using a quantitative research design, this study investigates the influence of Artificial Intelligence (AI) adoption on firms' financial risk while also examining whether cash holding behavior serves as an intermediary mechanism in this relationship. The sample consists of non-financial companies listed on the Indonesia Stock Exchange (IDX), since their financing arrangements and risk characteristics are fundamentally different from those observed in financial institutions. The use of capital market data allows for a rigorous analysis of causal effects and contributes empirical evidence concerning the financial outcomes associated with AI adoption at the firm level.

Model Development

The conceptual framework of this study explains the relationships among Artificial Intelligence (AI) adoption, corporate performance and financial structure characteristics, and cash holding behavior. AI adoption is viewed as a strategic factor that can enhance operational efficiency and improve decision-making quality, thereby potentially influencing corporate cash management policies. In addition, profitability, proxied by Return on Equity (ROE), and leverage (LV) represent key internal firm characteristics that affect a firm's capacity and need to maintain liquidity.

Within this framework, cash holding behavior is positioned as a central variable reflecting managerial decisions regarding the retention of cash reserves to address uncertainty, investment requirements, and operational financing needs. Accordingly, the proposed relationships suggest that AI adoption, profitability (ROE), and leverage jointly influence corporate cash holding behavior through improvements in resource allocation efficiency and adjustments in financial strategies aimed at maintaining liquidity.

Figure 1 presents the conceptual framework of the study, illustrating the relationships among Artificial Intelligence (AI) adoption, cash holding behavior, and corporate financial risk in Indonesian non-financial firms.

Figure 1. Conceptual framework

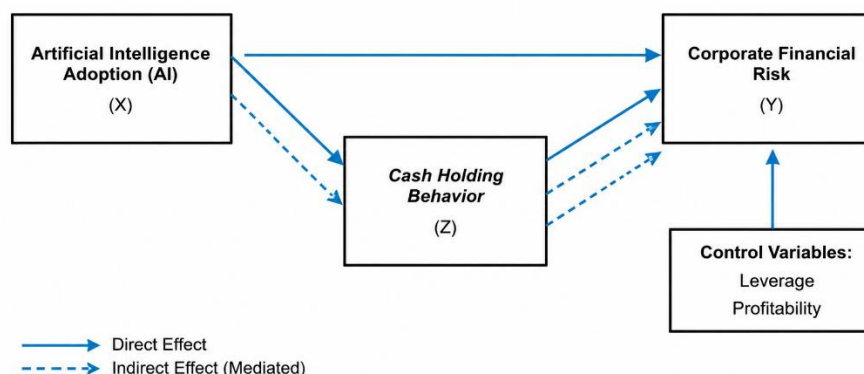


Figure 1. Conceptual Framework
The Relationship between AI Adoption, Cash Holding Behavior, and Corporate Financial Risk

Operational Definition of Variables

This study examines four categories of variables: independent, and mediating, dependent. The independent variable is the level of Artificial Intelligence (AI) adoption, which is measured using textual analysis of firms' annual reports. The mediating variable is cash holding behavior. The dependent variable is corporate financial risk, proxied by the annual volatility of stock returns.

A summary of the operational definitions, variable classifications, and measurement methods for each research variable is systematically presented in the Operational Definition of Variables Table.

Table 1. Operational Definition and Measurement of Variables

Variable	Indicator	Measurement Formula
Artificial Intelligence Adoption (AI)	Natural logarithm of the total frequency of AI-related keywords disclosed in the firm's annual report, plus one (Xin, 2025; Liu et al., 2025).	$\ln(X+1)$

Variable	Indicator	Measurement Formula
Cash Holding Behavior	Ratio of cash and cash equivalents to total assets (Hengsaputri & Bangun, 2020)	$\frac{\text{Cash and Cash Equivalents}}{\text{Total Assets}}$
Financial Risk	Annual stock return volatility (the standard deviation of daily or monthly stock returns within a year), (Wang & Yang, 2024).	$\sigma \text{ monthly} * \sqrt{12}$

Hypothesis Development

Artificial Intelligence (AI) adoption plays a crucial role in enhancing corporate management effectiveness through predictive analytics, business process automation, and data-driven decision-making capabilities. The implementation of AI enables firms to improve operational efficiency, accelerate information processing, and strengthen corporate governance quality (Giraud et al., 2023; H. Xu et al., 2024). From the perspective of contingency theory, the effectiveness of technology implementation depends on organizational readiness and the firm's ability to integrate technological innovations into business processes. Accordingly, AI adoption can help firms reduce operational uncertainty and mitigate corporate financial risk by improving efficiency and decision-making quality (Liu et al., 2025; Xin, 2025).

In addition to its impact on corporate financial risk, AI adoption may also influence firms' cash holding behavior. The implementation of AI requires substantial investments in technology, digital infrastructure, and human capital development. Consequently, firms may maintain higher cash reserves to preserve financial flexibility and support future technological investments. According to the precautionary motive theory, firms tend to increase cash holdings when facing uncertainty and significant internal financing needs (Keynes, 1936). Furthermore, AI can enhance cash-flow forecasting accuracy, improve liquidity management efficiency, and increase corporate information transparency, thereby encouraging firms to hold larger cash reserves as a precaution against future investment requirements and business risks (Catal et al., 2025; Helo & Hao, 2022; Yang et al., 2025).

On the other hand, firms with higher levels of cash holdings generally possess greater financial flexibility in responding to economic pressures and

constraints in external financing. Trade-off theory suggests that cash reserves provide benefits by enabling firms to maintain operational stability, meet financial obligations, and reduce the likelihood of financial distress (Ferreira & Vilela, 2004; Myers, 1984). Therefore, cash holding behavior can reduce corporate financial risk by providing an adequate liquidity buffer to cope with business uncertainty.

Based on the foregoing arguments, cash holding behavior is expected to serve as a mediating mechanism in the relationship between AI adoption and corporate financial risk. AI adoption may encourage firms to maintain higher levels of cash holdings, which in turn contribute to reducing corporate financial risk. Based on the theoretical framework and prior empirical findings, the following hypotheses are proposed:

H1 : Artificial Intelligence (AI) adoption negatively affects corporate financial risk.

H2 : Artificial Intelligence (AI) adoption positively affects corporate cash holding behavior.

H3 : Corporate cash holding behavior negatively affects corporate financial risk.

H4 : Corporate cash holding behavior mediates the relationship between Artificial Intelligence (AI) adoption and corporate financial risk.

Data Collection

This study exclusively utilizes secondary data that are objective, publicly available, and verifiable. The data are obtained from firms' annual reports and financial statements published through the Indonesia Stock Exchange (IDX). The observation period covers 2022–2024, enabling the application of panel data analysis to capture both cross-sectional and time-series variations among firms more comprehensively.

Data analysis is conducted using panel data regression models estimated with STATA software. Several model specification tests are performed to determine the most appropriate panel regression model. Subsequently, mediation analysis is employed to examine the role of cash holding behavior in mediating the relationship between AI adoption and corporate financial risk.

3. Result and Discussion

Sample Selection

The sample was selected using a purposive sampling technique, which involves selecting observations based on specific criteria aligned with the objectives of the study. This technique was employed to ensure that the selected firms possessed characteristics relevant to the research variables and provided complete data throughout the observation period. The sample selection procedure is presented in the following table.

Table 2. Sample selection

No	Sample Selection Criteria	Number of Firms
1	Non-financial firms listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period	850
2	Firms that published complete annual reports throughout the study period	321
3	Firms with complete data for all research variables	46
4	Firms meeting all sample selection criteria	33
5	Total research observations (33 firms × 3 years)	99

The research sample was selected from firms listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period that published complete annual reports and provided data relevant to the research objectives. Based on the sample selection process, a total of 33 firms met all predetermined criteria, resulting in 99 firm-year observations. The use of purposive sampling ensures that the selected sample adequately represents firms with characteristics relevant to the study of AI adoption, cash holding behavior, and corporate financial risk.

Analysis

Descriptive statistics

Table 3. Descriptive statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
RK	99	0.4364	0.3912	0.0434	2,6310
AI	99	1,7263	0.8152	0.6931	3,7842
CH	99	0.1063	0.0960	0.0002	0.3842
ROE	99	0.1061	0.2755	-1.1849	1.2466
LV	99	0.4750	0.1827	0.1387	0.8497

Based on descriptive statistics, this study used 99 company observation data for the period 2022–2024. The RK variable had an average value of 0.4364 with a standard deviation of 0.3912, indicating that the company's financial risk level was relatively varied but still had a good distribution. The AI variable had an average value of 1.7263 with a standard deviation of 0.8152, indicating differences in the level of AI adoption between companies.

Furthermore, the CH variable has an average of 0.1063 or 10.63%, indicating that the company maintains cash in a relatively moderate proportion of its total assets. The ROE variable has an average of 0.1061 or 10.61%, indicating the company's ability to generate profits from its equity. However, the minimum negative ROE value indicates that some companies experienced losses during the study period. Furthermore, the LV variable has an average of 0.4750, indicating that the company's leverage level is generally still relatively manageable compared to its total assets.

Model selection test

Table 4. Model selection test

Test Stages	Models Compared	Probability Value	Criteria	Decision
Chow Test	Common Effect Model (CEM) vs Fixed Effect Model (FEM)	0.2701	Prob > 0.05	Selecting the Common Effect Model (CEM)
Breusch-Pagan LM Test	Common Effect Model (CEM) vs Random Effect Model (REM)	1,0000	Prob > 0.05	Selecting the Common Effect Model (CEM)

Model selection for the panel data analysis was carried out using the Chow Test and the Breusch–Pagan Lagrange Multiplier (LM) Test. The Chow Test generated a probability value of 0.2701 (> 0.05), indicating that the Common Effect Model (CEM) is more appropriate than the Fixed Effect Model (FEM). Consistent with this finding, the LM Test reported a probability value of 1.0000 (> 0.05), suggesting that the Common Effect Model also outperforms the Random Effect Model (REM). Accordingly, the Common Effect Model (CEM) was selected as the estimation model in this study.

Classical Assumption Test

Table 5. Classical assumption test

Test Type	Testing Method	Results	Criteria	Conclusion
Normality Test	Skewness/Kurtosis Test	Prob > chi2 = 0.5295	Prob > 0.05	Normally distributed data
Multicollinearity Test	Variance Inflation Factor (VIF)	Mean VIF = 1.30	VIF < 10	There is no multicollinearity
Heteroscedasticity Test	White Test	Prob > chi2 = 0.8612	Prob > 0.05	There is no heteroscedasticity
Autocorrelation Test	Wooldridge Test	Prob > F = 0.3616	Prob > 0.05	No autocorrelation occurs

Based on the results of the classical assumption test, the research model has met all the required classical assumptions. The normality test using the Skewness/Kurtosis Test produces a probability value of $0.5295 > 0.05$ so that the research residuals are normally distributed. The multicollinearity test shows a Mean VIF value of 1.30 or less than 10, which means there is no high linear relationship between the independent variables. Furthermore, the heteroscedasticity test using the White Test obtained a probability value of $0.8612 > 0.05$ so that the model is free from symptoms of heteroscedasticity. In addition, the results of the Wooldridge Test show a probability value of $0.3616 > 0.05$ which indicates no autocorrelation in the research model. Thus, the regression model is suitable for use in hypothesis testing.

Hypothesis Testing

Table 6. Hypothesis testing

Hypothesis	Relationship between variables	Prediction	Coefficient	Sig.	Results
H1	AI → RK	Negative	0.0229	0.677	Rejected
H2	AI → CH	Positive	0.0091*	0.089	Accepted
H3	CH → RK	Negative	-0.5335***	0.005	Accepted
H4	AI → CH → RK	Mediation	0.1273	0.725	Rejected

*** significant at the 1% level

** significant at the 5% level

* significant at the 10% level

H1: AI adoption has a negative impact on a company's financial risk.

The test results show that the AI variable has a coefficient of 0.0229 with a significance value of 0.677 (>0.05). These results indicate that AI adoption does not significantly impact a company's financial risk. Furthermore, the positive direction of the coefficient does not align with the proposed hypothesis. Therefore, H1 is rejected. This finding indicates that AI implementation in the sample companies has not been able to directly reduce the company's financial risk.

H2: AI adoption has a positive effect on the company's cash holding behavior.

The test results show that the AI variable has a coefficient of 0.0091 with a significance value of 0.089 (<0.10) in the FGLS model. These results indicate that AI adoption has a positive effect on a company's cash holding behavior. Thus, H2 is accepted. This finding indicates that companies that adopt AI tend to increase cash holdings in anticipation of technological investment needs, operational uncertainty, and strengthening the company's financial flexibility.

H3: Cash holding behavior has a negative effect on the company's financial risk.

The test results show that the CH variable has a coefficient of -0.5335 with a significance value of 0.005 (<0.05) in the FGLS model. These results indicate that cash holding behavior has a negative and significant effect on corporate financial risk. Thus, H3 is accepted. This finding indicates that the higher the level of cash holding, the lower the company's financial risk because the company has better liquidity reserves to face uncertainty and financial pressure.

H4: Cash holding behavior mediates the effect of AI adoption on financial risk. company

The results of the moderation/interaction test indicate that the interaction variable between AI and CH (AI $\rightarrow$ CH) has a significance value of 0.725 (>0.05). This result indicates that cash holding behavior is unable to strengthen or weaken the influence of AI adoption on corporate financial risk. Thus, H4 is rejected. This finding indicates that cash holding behavior is not yet able to act as a mechanism to significantly bridge the relationship between AI adoption and corporate financial risk.

Discussion

The Impact of AI Adoption on Corporate Financial Risk

The research results show that the adoption of Artificial Intelligence (AI) has not been able to directly reduce a company's financial risk. This finding indicates that AI implementation in the sample companies is still in its early stages of development, so the benefits of AI have not been fully integrated into the company's risk management system. Although AI has the ability to improve operational efficiency, data analysis, and decision-making, the technology's effectiveness is heavily influenced by organizational readiness, the quality of its human resources, and the company's digital infrastructure.

From a contingency theory perspective, the effectiveness of a technology depends heavily on the fit between the technology, organizational strategy, and the company's environment (Otley, 1980). Therefore, the mere existence of AI is insufficient to mitigate financial risk if a company is unable to optimally integrate the technology into its risk management and financial decision-making processes. Furthermore, implementing AI also requires significant investment costs and a lengthy adaptation process, so its benefits to financial stability may not be felt in the short term.

The results of this study align with those of Côte-Real et al. (2019), which stated that digital transformation does not always have a direct impact on reducing corporate risk because the benefits of technology depend on the company's organizational capabilities. Research by Rialti et al. (2020) also showed that the implementation of AI and big data requires the support of organizational capabilities to generate added value for the company. However, the results of this study differ from those of Brynjolfsson and McAfee (2017), which stated that AI can improve the efficiency and quality of corporate decision-making. These differences indicate that the benefits of AI are significantly influenced by the level of digital readiness and internal capacity of the company.

The consequences of these findings indicate that companies cannot only focus on adopting AI technology, but also need to strengthen corporate

governance, human resource readiness, and internal control systems so that AI implementation can support effective financial risk management.

The Impact of AI Adoption on Cash Holding Behavior

The research results show that AI adoption has a positive impact on companies' cash holding behavior. These findings suggest that companies adopting AI tend to increase cash holdings in anticipation of technology investment needs, business uncertainty, and increased financial flexibility. AI implementation requires relatively large investments, both in the form of digital system development, technological infrastructure, and human resource competency enhancement, so companies tend to maintain higher cash reserves.

This finding can be explained by the precautionary motive theory, which states that companies will increase cash holdings when facing uncertainty and high internal funding needs (Keynes, 1936). In this context, companies undergoing digital transformation through AI adoption tend to maintain liquidity to support the sustainability of future technology investments. Furthermore, the trade-off theory also explains that companies maintain cash to balance the benefits of liquidity with the costs of holding cash.

The results of this study support Opler et al.'s (1999) research, which states that companies will increase their cash holdings when facing investment opportunities and high uncertainty. Bates et al.'s (2009) research also shows that modern companies tend to have higher cash holdings to address business risks and future funding needs. Furthermore, Chen et al. (2022) explain that digitalization and AI encourage companies to maintain financial flexibility by increasing their cash reserves.

The consequences of these findings indicate that AI adoption not only affects the operational aspects of the company, but also influences the company's financial policies, particularly in liquidity management and cash holding as a strategy to maintain financial flexibility.

The Influence of Cash Holding Behavior on Corporate Financial Risk

The research results show that cash holding behavior negatively impacts a company's financial risk. This finding suggests that the higher a company's cash holdings, the lower its financial risk. High cash holdings

provide a company with greater resilience to economic uncertainty, cash flow pressures, and limited access to external funding.

In trade-off theory, companies attempt to balance the benefits and costs of holding cash to maintain financial stability (Myers, 1984). Cash holdings serve as a liquidity buffer, helping companies reduce the likelihood of financial distress and maintain their ability to meet short-term and long-term obligations. Furthermore, pecking order theory explains that companies tend to use internal funds first rather than external financing due to lower information and transaction costs.

The results of this study align with those of Ferreira and Vilela (2004), who stated that cash holdings can reduce financial risk because companies have greater financial flexibility. Gill and Shah's (2012) study also found that companies with high cash holdings tend to have lower financial risk than companies with low cash reserves. Furthermore, Bates et al. (2009) explained that increasing cash holdings is a company strategy for dealing with economic volatility and business uncertainty.

The consequences of these findings indicate that cash management is a crucial strategy for maintaining a company's financial stability and sustainability. Companies with adequate cash reserves are better able to withstand economic pressures and funding risks.

The Role of Cash Holding Behavior in Mediating the Effect of AI Adoption on Corporate Financial Risk

The results of the study indicate that cash holding behavior is unable to mediate the effect of AI adoption on corporate financial risk. This finding indicates that the increase in cash holdings due to AI adoption is not strong enough to bridge the relationship between AI and overall corporate financial risk. In other words, AI implementation has not directly created an effective financial mechanism to reduce corporate financial risk through cash holding.

These results suggest that the benefits of AI are likely still more focused on operational efficiency than on strengthening a company's financial stability. Furthermore, AI implementation requires a relatively long time before its benefits are felt in corporate risk management. According to resource-based theory, AI technology can only create competitive advantage if supported by

organizational capabilities, corporate governance, and effective resource management (Barney, 1991).

The results of this study differ from those of Li et al. (2023), who stated that AI can increase a company's financial flexibility, thus impacting its financial stability. However, these findings align with those of Raisch and Krakowski (2021), who explained that the benefits of AI are often not immediately apparent, as they are influenced by organizational readiness, governance, and implementation strategy.

The implications of these findings suggest that companies cannot rely solely on AI adoption to mitigate financial risk. They also need to strengthen financial management, risk governance, and cash efficiency to ensure the benefits of AI implementation can optimally support financial stability.

4. Conclusion

This study aims to analyze the effect of Artificial Intelligence (AI) adoption on corporate financial risk by considering the role of cash holding behavior as a mediating variable. The results show that AI adoption has not been able to directly reduce corporate financial risk. This finding indicates that AI implementation in the sample companies is still not optimal in supporting corporate financial risk management. On the other hand, AI adoption has been shown to encourage increased corporate cash holding behavior. This suggests that companies undergoing digital transformation through AI tend to maintain larger cash reserves to anticipate technology investment needs and business uncertainty.

This study also found that cash holding behavior can reduce corporate financial risk. Companies with higher levels of cash holding have greater financial flexibility in the face of economic pressures and limited external funding, thus lowering corporate financial risk. However, cash holding behavior is not yet able to mediate the effect of AI adoption on corporate financial risk. This finding suggests that the increase in cash holdings due to AI implementation is not strong enough to bridge the relationship between AI and corporate financial risk overall.

The implications of this research suggest that companies cannot solely focus on adopting AI technology to reduce financial risk. They also need to

strengthen corporate governance, human resource readiness, and financial management strategies to optimize the benefits of AI more effectively. Furthermore, proper cash holding management is crucial as a strategy to maintain company financial flexibility and stability amidst economic uncertainty and digital technology developments.

This study is limited by its relatively small sample size and short observation period (2022–2024), which may not fully capture the long-term impact of AI implementation on corporate financial risk. In addition, the findings are limited to non-financial companies listed in Indonesia; therefore, the results may not be generalizable to financial institutions or companies operating in other countries or different industrial contexts. Different industry characteristics, such as regulatory environments, capital structures, and levels of technology adoption, may produce different findings. Furthermore, the measurement of AI adoption still relies on disclosures in annual reports, which may not fully reflect the actual level of AI implementation within firms. Therefore, future research is recommended to expand the sample by including companies from different industries and countries, increase the sample size, extend the observation period, and employ more comprehensive proxies for AI adoption to provide a deeper understanding of the relationship between AI, corporate financial policies, and corporate financial risk.

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