



## Fostering Investment Efficiency in Indonesian Firms: Empirical Evidence and Recommendations for Future Research

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### Abstract

**Objective** –The purpose of this research is to review and examine the empirical evidence on investment efficiency in Indonesia.

**Design/methodology** –This research employs bibliographic analysis. This research utilizes 30 articles published between 2015 and 2023 in internationally recognized Scopus journals and nationally recognized Sinta 2 journals.

**Results** –This research identifies three categories of factors that impact investment efficiency namely financial, governance, and non-financial factors. Financial factors are essential in assessing investment effectiveness, while corporate governance factors can enhance a firm's investment decisions. Non-financial factors related to managerial personnel can also significantly impact a firm's investment efficiency. Future research on investment efficiency in Indonesia should incorporate diverse variables and external factors, conduct comparative studies with neighboring countries, and collaborate with industry stakeholders to bridge the gap between theory and practice.

**Research limitations/implications** –This research focuses primarily on analyzing the literature on investment efficiency in Indonesia by using charting the field method. This research adds to the literature on the various factors that affect the investment efficiency of firms.

**Novelty/Originality** –This research is the first to conduct a comprehensive literature review on investment efficiency in Indonesia. By systematically analyzing findings from various studies, this research offers a unique and thorough understanding of investment efficiency within the Indonesian context.

**Keywords:** Bibliographic study, firm's capital, future research, investment efficiency

### 1. Introduction

Investment provides benefits to firms, namely to maintain business continuity and to develop the firm's capital (Purba & Suaryana, 2018). Due to rapid economic and technological changes in the global world, every firm must be able to compete to maintain business continuity. In competing, firms need to have a competitive advantage over competitors. One way to gain a competitive advantage is to make optimal investment decisions. Optimal investment occurs when marginal benefit equals marginal cost (Ngelo et al., 2022). According to this view, managers will choose investments carefully to avoid overinvestment or underinvestment. In reality, there are information asymmetries and agency problems among managers, investors, and creditors that affect a firm's investment decisions (Alsmady, 2023). Information asymmetry occurs when managers have more complete and detailed information about the firm than investors or creditors. Agency problems also arise when managers, as the party with the most information, take certain advantages in making investment decisions that jeopardize the interests of investors or creditors (Asiri et al., 2020). These problems affect the firm's investment decisions, making them inefficient.

The investments made by firms can have an impact on the economy of a country. Firms as economic actors play a role in providing products or services needed by consumers (Sukarno et al., 2022). An increase in the productivity of firms has a positive impact on economic growth (Hamdani, 2016). However, inefficient investment decisions can limit economic growth. The macro level of investment efficiency is reflected in the incremental capital-output ratio (ICOR). The ICOR explains the relationship between the level of investment in the economy and the increase in gross domestic product. The lower the ICOR, the more efficient a region's economy.

Investment efficiency in Indonesia is particularly interesting to study due to its high ICOR values, indicating inefficiency in investment spending (Pratiwi, 2023). Based on BPS (National Statistics Office of Indonesia) data, Indonesia's ICOR value is always above 6 from 2016 to 2022 except in 2020, which is -15 (Badan Pusat Statistik, 2023). Indonesia has the highest ICOR value compared to Malaysia (4.5), the Philippines (3.7), Thailand (4.4) and Vietnam (4.6). This shows that investment spending is not efficient, as the output produced does not meet expectations. Understanding and improving investment efficiency is urgent for fostering economic growth and maintaining competitiveness in the face of rapid global changes (Greco et al., 2020). Indonesia, as a developing country with a strong economy and a member of the G20, provides a unique and significant context for such a study.

Over the past decade, researchers have conducted numerous studies on investment efficiency in Indonesia with varying research results. To the best of our knowledge, no articles have systematically reviewed and discussed the empirical evidence on investment efficiency in Indonesia. This research addresses this gap by reviewing and discussing empirical evidence on investment efficiency in Indonesia. We use bibliographic research with charting the field method. The research only includes articles published in Scopus accredited journals, Sinta 1 and 2. All the articles in the research sample were identified and categorized based on the year of the research, the research object, and the relationship between the variables. We then created a visual map explaining the cause-and-effect relationship between the research variables. By doing so, the topic of investment efficiency is discussed from a broader perspective, providing a comprehensive overview of the development of research and the condition of investment efficiency in Indonesia. This study also resulted in formulating recommendations for future research related to investment efficiency.

This research indicates that multiple elements influence a firm's investment efficiency, including financial, governance, and non-financial factors. Specifically, financial factors such as free cash flow and debt maturity have a positive effect on investment efficiency according to the studies conducted by Guntoro et al. (2020), Fakhroni et al. (2018), Sukarno et al. (2022), Permatasari & Nengtyas (2020), and Al 'alam & Firmansyah (2019). Firms that engage in earnings management tend to reduce the efficiency of investment (Nuroniya & Basuki, 2020; Priscilia & Trisnawati, 2023; Yapono & Khomsatun, 2018). Conversely, quality financial reporting significantly increases firm investment efficiency (Adiputra et al., 2019; Ardianto et al., 2021; Butar, 2015; Purba & Suaryana, 2018).

Governance factors, such as the role of the board of directors and audit committee as corporate governance components, positively affect investment efficiency (Hidayat & Mardijuwono, 2020; Iriyadi & Yadiati, 2017; Jannah & Rahmawati, 2020; Ngelo et al., 2022; Saputra & Wardhani, 2017). Nonfinancial factors such as CEO characteristics (Butar, 2022; Iriyadi & Yadiati, 2017; Kuswara & Sari, 2022; Ngelo et al., 2022), firm complexity (Bimo et al., 2022; Selano, 2021), and institutional ownership (Yapono & Khomsatun, 2018) also affect investment efficiency and may increase or decrease investment efficiency.

Previous research suggests that Corporate Social Responsibility (CSR) Disclosure can moderate both financial and non-financial governance factors to enhance investment efficiency. This has been highlighted in studies by (Saputri & Agustina, 2022) and (Fauziah et al., 2021). Research on investment efficiency in

Indonesia is mixed, particularly regarding the effect of tax avoidance on investment efficiency: some studies suggest that tax avoidance reduces investment efficiency (Firmansyah & Triastie, 2020; Kuswara & Sari, 2022; Sukarno et al., 2022), while others suggest that it increases investment efficiency (Ngelo et al., 2022).

Investment efficiency is crucial because it can enhance a firm's value, which has an impact on increasing investor's wealth. In the Indonesian setting, investors must recognize that financial, governance, and non-financial elements have an impact on firm investment decisions. For scholars, this study provides an overview of the causes and effects of the efficient investment of the firm. For policymakers, this research can be used as an aid in the formulation of economic and investment policies that facilitate the ease of doing business in Indonesia.

## **2. Literature Review**

Investment efficiency refers to a firm's actions in allocating resources appropriately to achieve the firm's objectives (Jannah & Rahmawati, 2020). Every investment decision has an impact on the firm's returns. Investment activities are expected to be continuous and provide future benefits (Hidayat & Mardijuwono, 2020). Managers act as agents who are responsible for running the business and making important decisions on behalf of investors. Efficiency in investment activities is crucial for managers to determine the optimal investment expenditure. Ideally, firms should invest in projects with a positive Net Present Value (NPV). However, investments often fail to perform as expected due to managerial constraints and agency problems (Benlemlih & Bitar, 2018).

According to neoclassical theory, managers make optimal investment decisions when the marginal benefits of capital investment equal the marginal costs (Biddle et al., 2009). To obtain marginal benefits, a firm must invest in projects with positive net present value. Investment may be suboptimal due to imperfect market mechanisms such as moral hazard and adverse selection. Furthermore, investment can be suboptimal due to information asymmetry (Jensen & Meckling, 1976). Errors in decision-making and the inability of management to monitor financial conditions make the firm's investments inefficient. Inefficient investment often leads to underinvestment or overinvestment.

In particular, underinvestment occurs when managers ignore profitable projects. Managers raise the cost of dividends to cover risks and compensate investors for their decisions. However, the increase in the cost of capital is a constraint on a firm's resources. Managers are hesitant to make investment decisions, even for projects with positive NPV. Overinvestment occurs when the firm has sufficient resources, but the manager does not invest optimally or chooses projects with short-term gains and negative NPV. The behavior of managers is opportunistic. This includes the implementation of bonus schemes and compensation increases, where the manager aims to gain control of the firm and create an empire (Myers & Majluf, 1984). Resources are allocated not to maximize investor returns but for the manager's benefit (Suman & Singh, 2020). Optimal investment, on the other hand, yields maximum returns and creates an efficient investment framework.

## **3. Research Method**

This study employs a bibliographic research approach to explore specific topics through diverse viewpoints and perspectives from existing literature (Zoogah, 2014). The process includes data preparation, data collection, and data analysis, as illustrated in Figure 1. We utilize the charting-the-field method as described by Hesford et al. (2006) that is systematically investigating previous articles to understand the topic comprehensively. Our focus is on investment efficiency in Indonesian firms, with no restrictions on publication year. The selected articles concentrate on investment efficiency variables, especially as the dependent variable.

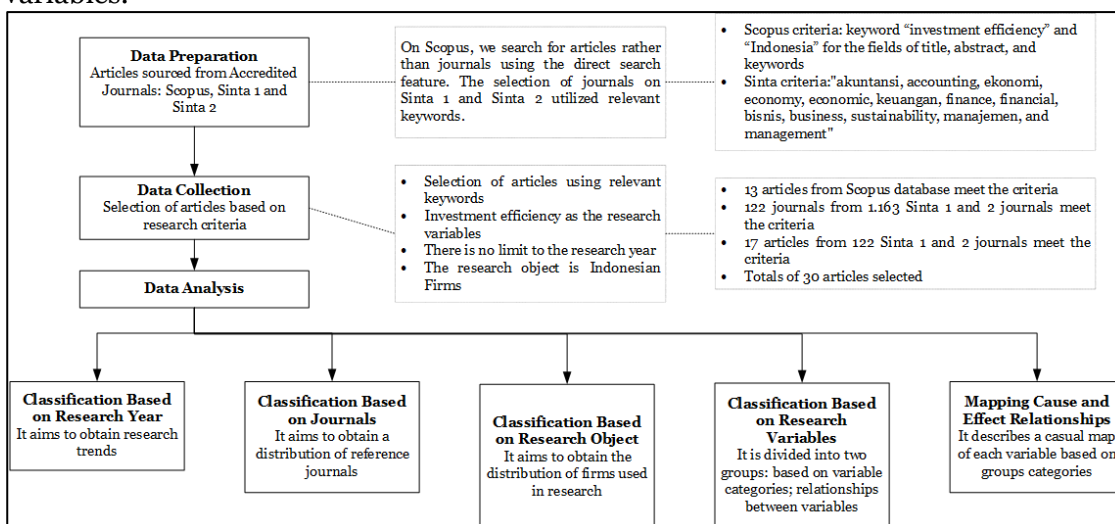
In the data preparation stage, we established the criteria for selecting journals. Scopus-accredited journals were chosen because Scopus, managed by Elsevier, is a reputable source of peer-reviewed international journals, ensuring high-quality and reliable information. Additionally, we included journals from Sinta 1 and Sinta 2, as listed by the Indonesian Ministry of Education, Culture, Research, and Technology. Sinta (Science and Technology Index) is an online portal that provides a list of accredited national journals, ensuring the inclusion of high-quality, nationally recognized research. These criteria ensure that articles used for the study are of high quality with good reputation and thus, the information is valid and reliable.

The search strategy involved two databases: Scopus and Sinta. For Scopus, we conducted a direct search for articles using the fields of title, abstract, and keywords with the terms "investment efficiency" and "Indonesia." For Sinta 1 and Sinta 2, we utilized a broader set of keywords such as "*akuntansi*, accounting, *ekonomi*, economy, economic, *keuangan*, finance, financial, *bisnis*, business, sustainability, *manajemen*, and management". Articles were then filtered using specific keywords like "investment efficiency, *efisiensi investasi*, Indonesian investment efficiency, and Indonesian investment inefficiency".

Article selection involved a thorough review of the search results. From Scopus, we identified and selected 13 articles specifically discussing investment efficiency in Indonesia through the direct search feature. In the Sinta databases, we reviewed 1,163 journals and identified 122 journals meeting the initial criteria. After further filtering, we selected 17 articles from 12 Sinta 2 journals. Articles from Sinta 1 were excluded due to irrelevance to our research focus. During the data collection stage, the collected articles were organized based on publication year, journal title, research object, variable category, and the relationship category between the variables. Each article was meticulously reviewed to identify the specific variables studied and their causal relationships.

The research variables were then classified into three categories: financial factors, governance factors, and non-financial factors. Financial factors included variables related to the financial operations and calculations of the firm, governance factors encompassed variables related to the structure and elements of corporate governance, and non-financial factors included variables that did not fall into the financial or governance categories.

In the data analysis stage, we conducted cause and effect mapping to categorize relationships between variables as direct, moderating, or mediating, following the framework provided by Luft & Shields (2003). We grouped financial factors, governance factors, and non-financial factors for each type of relationship between variables.



**Figure 1.**  
Research Framework

In the final stage, we synthesized our findings using the visual map, providing a comprehensive overview of the factors influencing investment efficiency in Indonesian firms. The relationships between variables were analyzed to identify patterns and key drivers of investment efficiency. Causal maps help us understand how variables are related to each other and how they impact other variables (Latifah et al., 2018). By using this approach, we can better understand the complexity of the relationships between variables in investment efficiency research.

#### 4. Results and Discussion

##### 4.1 Investment Efficiency Research in Indonesia

Research on investment efficiency in Indonesia has shown a positive trend since 2015. The first research on investment efficiency in Indonesia is conducted by Butar (2015). Table 1 illustrates this increasing interest, with four articles published between 2015 and 2018, and a significant rise to 13 articles for both the 2018–2020 and 2021–2023 periods. This trend highlights the growing recognition of investment efficiency's critical role in firm operations, particularly in ensuring business continuity and enhancing firm value. Given the persistent inefficiency indicated by Indonesia's high ICOR values, more in-depth and varied studies are essential. These studies should focus on identifying the root causes of inefficiency of firm's investment and proposing actionable strategies to enhance investment outcomes.

##### 4.1.1 Classification Based on Journal Reference

Our analysis identified 25 journals publishing on investment efficiency, with 12 indexed by Scopus and 13 by Sinta 2, yielding a total of 30 articles. The *Jurnal Dinamika Akuntansi dan Bisnis* published the highest number of articles, namely three, or 10%, on the topic of investment efficiency. The publication distribution across journals is relatively even, with no journal publishing more than three articles on this topic over the past decade. Most of the journals that published articles on investment efficiency are related to accounting, reflecting the field's relevance to financial reporting and corporate governance.

**Table 1.**  
Total distribution of  
articles by journal

| Journal                                                         | <2018 | 2018<br>2020 | -<br>2021<br>2023 | -<br>Total | Total<br>(%) |
|-----------------------------------------------------------------|-------|--------------|-------------------|------------|--------------|
| <i>Jurnal Dinamika Akuntansi dan Bisnis</i>                     | 0     | 1            | 2                 | 3          | 10.00        |
| International Journal of Innovation, Creativity and Change      | 0     | 2            | 0                 | 2          | 6.67         |
| Journal of Accounting and Investment                            | 0     | 0            | 2                 | 2          | 6.67         |
| <i>Jurnal Akuntansi dan Bisnis</i>                              | 1     | 1            | 0                 | 2          | 6.67         |
| Asian Review of Accounting                                      | 0     | 0            | 1                 | 1          | 3.33         |
| Assets ( <i>Jurnal Akuntansi dan Pendidikan</i> )               | 0     | 0            | 1                 | 1          | 3.33         |
| Brazilian Administration Review                                 | 0     | 1            | 0                 | 1          | 3.33         |
| Cogent Business & Management                                    | 0     | 0            | 1                 | 1          | 3.33         |
| Economic and Finance in Indonesia                               | 0     | 1            | 0                 | 1          | 3.33         |
| Economies                                                       | 0     | 0            | 1                 | 1          | 3.33         |
| Ekuitas ( <i>Jurnal Ekonomi dan Keuangan</i> )                  | 0     | 1            | 0                 | 1          | 3.33         |
| Indonesian Journal of Sustainability Accounting and Management  | 0     | 0            | 1                 | 1          | 3.33         |
| International Journal of Applied Business and Economic Research | 1     | 0            | 0                 | 1          | 3.33         |
| Investment Management and Financial Innovations                 | 0     | 1            | 0                 | 1          | 3.33         |
| Journal of Accounting and Strategic Finance                     | 0     | 1            | 0                 | 1          | 3.33         |
| Journal of Financial Reporting and Accounting                   | 0     | 0            | 1                 | 1          | 3.33         |

|                                                       |   |    |    |    |      |
|-------------------------------------------------------|---|----|----|----|------|
| Journal of Governance and Regulation                  | 0 | 1  | 0  | 1  | 3.33 |
| Journal of Security and Sustainability Issues         | 0 | 1  | 0  | 1  | 3.33 |
| Jurnal Akuntansi dan Auditing Indonesia               | 1 | 0  | 0  | 1  | 3.33 |
| Jurnal Akuntansi dan Keuangan                         | 1 | 0  | 0  | 1  | 3.33 |
| Jurnal Ilmiah Akuntansi dan Bisnis                    | 0 | 1  | 0  | 1  | 3.33 |
| Jurnal Reviu Akuntansi dan Keuangan                   | 0 | 0  | 1  | 1  | 3.33 |
| Jurnal Riset Akuntansi dan Keuangan Indonesia         | 0 | 0  | 1  | 1  | 3.33 |
| Review of International Geographical Education Online | 0 | 1  | 0  | 1  | 3.33 |
| Technology Management, Operations, and Decisions      | 0 | 0  | 1  | 1  | 3.33 |
| Total                                                 | 4 | 13 | 13 | 30 | 100  |

#### 4.1.2 Classification Based on Research Object

Table 2 shows the classification of articles based on the sample of firms studied. Only two studies (Adiputra et al., 2019; Iriyadi & Yadiati, 2017) use a sample of all state-owned firms, regardless of their listing on the IDX.

| Research Object                                                    | Frequency | Total (%) |
|--------------------------------------------------------------------|-----------|-----------|
| All sectors except finance and insurance                           | 11        | 35.48     |
| Manufacturing sector                                               | 7         | 22.58     |
| All sectors except financial, insurance, and real estate           | 4         | 12.90     |
| Non-financial and non-insurance SOE                                | 2         | 6.45      |
| Mining Sector                                                      | 2         | 6.45      |
| All Firms                                                          | 2         | 6.45      |
| JII Index Firm                                                     | 1         | 3.23      |
| Manufacturing and Infrastructure Sector                            | 1         | 3.23      |
| All Sectors Except Financial, Insurance, Real Estate and Utilities | 1         | 3.23      |
| Total                                                              | 30        | 100       |

**Table 2.**  
Research Object

The majority of research focused on firms across various sectors except for finance and insurance. It is due to the distinctive accounting structures of these sectors that could bias the research results (Dickinson et al., 2011). The emphasis on the manufacturing and mining sectors in these studies is justified by their significant capital expenditures and assets, which are critical for examining investment efficiency (Selano, 2021). These sectors have been pivotal to Indonesia's economic growth, particularly during periods of commodity price fluctuations and economic slowdown, such as the decline in 2015. The focus on these sectors aligns with the need to scrutinize large-scale investments that have substantial impacts on the economy.

#### 4.1.3 Classification Based on Variable Category and Relationships

This literature review explores investment efficiency as a dependent variable, identifying independent variables categorized into three distinct groups: financial factors, governance factors, and non-financial factors. Out of the 30 articles analyzed 28 examined variables affecting investment efficiency as a dependent variable, while two studies (Fakhroni et al., 2018; Fauziah et al., 2021) considered investment efficiency as a mediating variable. This categorization helps to understand the diverse factors of investment efficiency.

Our review found that financial factors were the most frequently studied, accounting for 46.38% of the independent variables, followed by governance factors at 34.78%, and non-financial factors at 18.84% as shown in Table 3. Specifically, financial factors were the most commonly examined as direct influences on investment efficiency (39.13%), while governance factors were frequently used as moderating variables (11.59%).



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**Table 3.**  
Classification  
Based on Variable  
Category and  
Relationships

| Category      | Variable Name         | Direct      |       | Moderating  |       | Mediating   |      | Total       |       |
|---------------|-----------------------|-------------|-------|-------------|-------|-------------|------|-------------|-------|
|               |                       | <i>Freq</i> | %     | <i>Freq</i> | %     | <i>Freq</i> | %    | <i>Freq</i> | %     |
| Financial     | FRQ                   | 12          | 17.39 |             |       |             |      | 12          | 17.39 |
|               | Debt Maturity         | 4           | 5.80  |             |       |             |      | 4           | 5.80  |
|               | Tax Avoidance         | 4           | 5.80  |             |       |             |      | 4           | 5.80  |
|               | Earnings Management   | 3           | 4.35  |             |       |             |      | 3           | 4.35  |
|               | Free Cash Flow        | 2           | 2.90  |             |       |             |      | 2           | 2.90  |
|               | Information Asymmetry | 1           | 1.45  |             |       | 1           | 1.45 | 2           | 2.90  |
|               | Investment Efficiency |             |       | 1           | 1.45  | 1           | 1.45 | 2           | 2.90  |
|               | Financial Distress    | 1           |       |             |       |             |      | 1           | 1.45  |
|               | Earnings Information  |             |       | 1           | 1.45  |             |      | 1           | 1.45  |
|               | Innovation            |             |       |             |       | 1           | 1.45 | 1           | 1.45  |
| Governance    | CSR Disclosure        | 3           | 4.35  | 1           | 1.45  |             |      | 4           | 5.80  |
|               | Internal Control      | 1           | 1.45  | 1           | 1.45  | 1           | 1.45 | 3           | 4.35  |
|               | Audit Committee       | 2           | 2.90  |             |       | 1           | 1.45 | 3           | 4.35  |
|               | Effectiveness         |             |       |             |       |             |      |             |       |
|               | Commissioner          | 2           | 2.90  | 1           | 1.45  |             |      | 3           | 4.35  |
|               | Effectiveness         |             |       |             |       |             |      |             |       |
|               | Governance            | 2           | 2.90  | 1           | 1.45  |             |      | 3           | 4.35  |
|               | Institutional         |             |       | 2           | 2.90  |             |      | 2           | 2.90  |
|               | Ownership             |             |       |             |       |             |      |             |       |
|               | Internal Audit        | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | Sustainability        | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | Reporting             |             |       |             |       |             |      |             |       |
|               | Risk Disclosure       | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | Ownership             | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | Structure             |             |       |             |       |             |      |             |       |
| Non-Financial | Independent           |             |       | 1           | 1.45  |             |      | 1           | 1.45  |
|               | Commissioner          |             |       |             |       |             |      |             |       |
|               | Litigation Risk       |             |       | 1           | 1.45  |             |      | 1           | 1.45  |
|               | Disclosure            |             |       |             |       |             |      |             |       |
|               | CEO complexity        | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | CEO career            | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | CEO reputation        | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | Ex-Auditor            | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | Fraud                 | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | Managerial Ability    | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | Political             |             |       |             |       |             |      |             |       |
|               | Connection            | 1           | 1.45  |             |       |             |      | 1           | 1.45  |
|               | CFO                   |             |       | 1           | 1.45  |             |      | 1           | 1.45  |
|               | certification         |             |       |             |       |             |      |             |       |
|               | Female CEO            |             |       | 1           | 1.45  |             |      | 1           | 1.45  |
|               | Firm                  |             |       | 1           | 1.45  |             |      | 1           | 1.45  |
|               | Complexity            |             |       |             |       |             |      |             |       |
|               | Auditor               |             |       | 1           | 1.45  |             |      | 1           | 1.45  |
|               | Specialization        |             |       |             |       |             |      |             |       |
|               | Industry              |             |       | 1           | 1.45  |             |      | 1           | 1.45  |
|               | Competition           |             |       |             |       |             |      |             |       |
|               | Transformation        |             |       |             |       | 1           | 1.45 | 1           | 1.45  |
|               | al Leadership         |             |       |             |       |             |      |             |       |
| Total         |                       | 48          | 69.57 | 15          | 21.73 | 6           | 9    | 69          | 100   |

The varied use of non-financial factors includes direct (10.14%), moderating (7.25%), and mediating roles (1.45%). Financial factors include various variables namely the quality of financial reports, debt maturity, tax avoidance, earnings management, free cash flow, information asymmetry, investment efficiency, earnings information, innovation, and financial distress.

The quality of financial reports emerged as a key factor, appearing in 12 studies (17.39%). Other significant financial factors included debt maturity and tax avoidance (each 5.80%), and earnings management (5.80%). Free cash flow and information asymmetry were each examined in 2.90% of the studies, while financial distress, earnings information, and innovation were each explored once (1.45%). These findings suggest that financial reporting quality is a critical predictor of firm investment efficiency, emphasizing its importance to stakeholders in verifying a firm's financial health.

Governance factors have a significant impact on the efficiency of investments. According to Table 3, Our review found that governance variables were used as independent variables, including CSR disclosure, commissioner effectiveness, audit committee effectiveness, internal control, governance, institutional ownership, and ownership structure. CSR disclosure was the most frequently studied governance variable (5.80%), followed by commissioner effectiveness, audit committee effectiveness, internal control, and governance (each 4.35%). Governance factors were also commonly employed as moderating variables (11.59%), highlighting their role in enhancing the relationship between investment efficiency and other factors. Studies such as those by Saputra & Wardhani (2017) and others (Adiputra et al., 2019; Firmansyah & Triastie, 2020; Nuroniyah & Basuki, 2020; Permatasari & Nengtyas, 2020; Sukarno et al., 2022; Yapono & Khomsatun, 2018) demonstrate the importance of governance in improving investment efficiency.

Non-financial factors, though less commonly studied, still significantly impact investment efficiency. These factors include CEO characteristics (e.g., having a female CEO, ex-auditor background, strong reputation, certification), managerial abilities, industry competition, and firm complexity. Non-financial factors were used in 19% of the studies, often related to the personal attributes and capabilities of managerial personnel. Studies such as those by Iriyadi & Yadiati (2017), Aulia & Siregar (2018), and others (Butar, 2022; Kuswara & Sari, 2022; Ngelo et al., 2022; Saputri & Agustina, 2022; Selano, 2021) highlight the relevance of these variables. External firm factors, such as industry competition, were rarely considered (1.45%) which is indicating a gap in the literature that could be addressed in future research.

Overall, the research on investment efficiency in Indonesia primarily focuses on financial factors as direct influences, while governance and non-financial factors are typically examined as moderating or mediating variables. This suggests a need for more balanced research that equally considers all types of factors influencing investment efficiency. Further analytical exploration between these factors could provide deeper insights into how firms can optimize their investment strategies.

#### *4.2 Optimizing Investment Efficiency in Indonesia*

The detailed analysis of investment efficiency research in Indonesia, as presented in Table 4 and depicted in Figure 2, provides a comprehensive understanding of the variables influencing investment efficiency. The studies, spanning from 2015 to 2023, offer valuable insights into the complexities of investment efficiency in the Indonesian context, justifying the choice of various factors based on economic activities and events during this period.

Several studies have treated the quality of financial reports as an independent variable affecting investment efficiency. High-quality financial reports minimize the information gap between managers and investors or creditors, fostering accountability and informed decision-making.



**Table 4.**  
Literature  
Review

| No | Article                                                                                                                                         | Author                                                                                       | Journal                                                        | Index   | Year |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------|---------|------|
| 1  | The Disclosure Effect of Sustainability Reporting and Financial Statements on Investment Efficiency: Evidence in Indonesia                      | Devina Rizky Amalia, Wijaya Triwacananingrum                                                 | Indonesian Journal of Sustainability Accounting and Management | Sinta 2 | 2022 |
| 2  | Firm Life Cycle and Investment Inefficiency: Empirical Study In IDX                                                                             | Amelia Graciosa Guntoro, Gracia, Rita Juliana                                                | Journal of Accounting and Strategic Finance                    | Sinta 2 | 2020 |
| 3  | <i>Corporate Governance dan Efisiensi Investasi pada perusahaan yang Terdaftar di Jakarta Islamic Index</i>                                     | Hanifah Roudhotul Jannah, Isna Putri Rahmawati                                               | <i>Jurnal Akuntansi dan Bisnis</i>                             | Sinta 2 | 2020 |
| 4  | <i>Kualitas Laporan Keuangan dan Pengendalian Internal Terhadap Efisiensi Investasi</i>                                                         | I Made Pradana Adiputra, Sidharta Utama, Sylvia Veronica                                     | <i>Ekuitas (Jurnal Ekonomi dan Keuangan)</i>                   | Sinta 2 | 2018 |
| 5  | Corporate Social Responsibility Disclosure, Investment Efficiency, innovation, and Firm Value                                                   | Dien Ajeng Fauziah, Eko Ganis Sukoharsono, Erwin Saraswati                                   | <i>Assets (Jurnal Akuntansi dan Pendidikan)</i>                | Sinta 2 | 2021 |
| 6  | <i>Pengaruh Efektivitas Dewan Komisaris, Komite Audit dan Kepemilikan Institusional Terhadap Efisiensi Investasi</i>                            | Alpha Alan Darma Saputra, Ratna Wardhani                                                     | <i>Jurnal Akuntansi dan Auditing Indonesia</i>                 | Sinta 2 | 2017 |
| 7  | Amplifying The Influence of Corporate Social Responsibility Disclosure on Investment Inefficiency by Choosing Woman Directors: Is It Effective? | Ulfah Tika Saputri, Fitri Agustina                                                           | Journal of Accounting and Investment                           | Sinta 2 | 2022 |
| 8  | The Effect of Real Earning Management, Fraud, and Earning Informativeness as The Moderating Variable on Investment Efficiency                   | Giovani Priscilia, Estralita Trisnawati                                                      | Journal of Accounting and Investment                           | Sinta 2 | 2023 |
| 9  | <i>Dampak Kualitas Laporan Keuangan, Regulasi Pengendalian Internal dan Keterbatasan Keuangan Terhadap Inefisiensi Investasi</i>                | Sansaloni Butar Butar                                                                        | <i>Jurnal Akuntansi dan Keuangan</i>                           | Sinta 2 | 2015 |
| 10 | <i>Kualitas Laporan Keuangan, Asimetri Informasi dan Efisiensi Investasi Pada perusahaan Pertambangan</i>                                       | Ida Ayu Candrasatyani Purba, I Ngurah Agung Suaryana                                         | <i>Jurnal Ilmiah Akuntansi dan Bisnis</i>                      | Sinta 2 | 2018 |
| 11 | The Impact of Directors Multiple Positions on Investment Efficiency Decisions                                                                   | Elysabet Christy Diandra Selano                                                              | <i>Jurnal Riset Akuntansi dan Keuangan Indonesia</i>           | Sinta 2 | 2021 |
| 12 | Financial Reporting Quality and Investment Efficiency: Evidence From IDX                                                                        | Hanif Putra Ardianto, Iman Harymawan, Yuanita Intan Paramitasari, Mohammad Nasih             | Economic and Finance in Indonesia                              | Sinta 2 | 2020 |
| 13 | <i>Penghindaran Pajak dan Efisiensi Investasi: Sertifikasi CFO Sebagai Pemoderasi</i>                                                           | Sandy Kuswara, Dahlia Sari                                                                   | <i>Jurnal Reviu Akuntansi dan Keuangan</i>                     | Sinta 2 | 2022 |
| 14 | Corporate Tax Avoidance and Investment Efficiency: Evidence from Enforcement of Tax Amnesty in Indonesia                                        | Agnes Aurora Ngelo, Yani Permatasari, Iman Harymawan, Nadia Anridho, Khairul Anuar Kamarudin | Economies                                                      | Scopus  | 2022 |

## Fostering Investment Efficiency in Indonesian Firms: Empirical Evidence and Recommendations for Future Research

|    |                                                                                                                                                           |                                                                                           |                                                            |         |      |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------|---------|------|
| 15 | Financial Reporting Quality, Tax Avoidance, Debt Maturity and Investment Efficiency: Corporate Social Responsibility Disclosure <i>Sebagai Moderasi</i>   | Riandi Satria Sukarno, Amrie Firmansyah, Pramuji Handra Jadi, Eta Fasita, Wahyudi Febrian | <i>Jurnal Dinamika Akuntansi dan Bisnis</i>                | Sinta 2 | 2022 |
| 16 | <i>Peranan Tata Kelola Sebagai Pemoderasi Atas Pengaruh Manajemen Laba Terhadap Efisiensi Investasi</i>                                                   | Dania Amani Yapono, Siti Khomsatun                                                        | <i>Jurnal Dinamika Akuntansi dan Bisnis</i>                | Sinta 2 | 2018 |
| 17 | <i>Kualitas Laporan Keuangan, Asimetri Informasi dan Efisiensi Investasi</i>                                                                              | Indah Umiyati                                                                             | <i>Jurnal Akuntansi dan Bisnis</i>                         | Sinta 2 | 2017 |
| 18 | The Role of Corporate Governance in Emerging Market: Tax Avoidance, Corporate Social Responsibility Disclosure, Risk Disclosure and Investment Efficiency | Amrie Firmansyah, Gitty Ajeng Triastie                                                    | Journal of Governance and Regulation                       | Scopus  | 2020 |
| 19 | Corporate Governance and Investment Efficiency in Indonesia: The Moderating Role of Industry Competition                                                  | Irenius Dwinanto Bimo, Engelbertha Evrantine Silalahi, Ni Luh Gde Lydia Kusumadewi        | Journal of Financial Reporting and Accounting              | Scopus  | 2021 |
| 20 | The Effect of Financial Reporting and Debt Maturity Quality of Investment Efficiency with Litigation Risk as Moderated Variables                          | Yani Permatasari, Ana Vebri Rahmadini Nengtyas                                            | International Journal of Innovation, Creativity and Change | Scopus  | 2020 |
| 21 | The Effect of Financial Reporting, Debt Maturity, Political Connection and Corporate Governance on Investment Efficiency: Evidence from Indonesia         | Muhammad Panji Anugerah Al Alam, Amrie Firmansyah                                         | International Journal of Innovation, Creativity and Change | Scopus  | 2019 |
| 22 | Managerial Characteristics and Investment Efficiency: Evidence Form Indonesia Listed Companies                                                            | Sansaloni Butar Butar                                                                     | <i>Jurnal Dinamika Akuntansi dan Bisnis</i>                | Sinta 2 | 2022 |
| 23 | Ex-Auditor Executives and Investment Efficiency: Evidence from Indonesia                                                                                  | Aa Ngelo, Iman Harymawan, Mohammad Nasih                                                  | Asian Review of Accounting                                 | Scopus  | 2022 |
| 24 | Free Cash Flow, Investment Inefficiency, and Earning Management: Evidence from Manufacturing Firms Listed on IDX                                          | Zaki Fakhroni, Imam Ghozali, Puji Harto, Etna Nur                                         | Investment Management and Financial Innovations            | Scopus  | 2018 |
| 25 | Financial Reporting Quality, Debt Maturity, CEO Career Concerns on Investment Efficiency                                                                  | Darlin Aulia, Sylvia Veronica Siregar                                                     | Brazilian Administration Review                            | Scopus  | 2018 |
| 26 | Internal Audit Function and Investment Efficiency: Evidence from Public Companies in Indonesia                                                            | Ardianto, Nadia Anridho, Aa Ngelo, Wulandari Fitri Ekasari                                | Cogent Business & Management                               | Scopus  | 2023 |
| 27 | Independent Commissioner Role in Earning Management and Investment Efficiency Relationship                                                                | Salsabila Fajrun Nuroniyah, Basuki                                                        | Journal of Security and Sustainability Issues              | Scopus  | 2020 |
| 28 | Ownership Structure Variation and Firm Investment Inefficiency                                                                                            | Faisal, M Shabari Abd Majid, Hamdi Harmen                                                 | Technology Management, Operations and Decisions            | Scopus  | 2021 |
| 29 | The Effect of Accounting Information Quality on Investment Efficiency with Auditor Specialization as Moderating Variables                                 | Sarah Bela Dina Hidayat, Agus Widodo Mardijuwono                                          | Review of International Geographical Education Online      | Scopus  | 2020 |

|    |                                                                                                                                                                                                                                                               |                         |                                                                 |        |      |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------|--------|------|
| 30 | The Influence of Transformational Leadership, Audit Committees' Role and Internal Control Toward Financial Reporting Quality and Its Implication on Investment Efficiency (Survey on Indonesia State Owned Companies of Non Public Service And Non Financial) | Iriyadi, Winwin Yadiati | International Journal of Applied Business and Economic Research | Scopus | 2017 |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------|--------|------|

This focus on financial reporting quality reflects Indonesia's ongoing efforts to enhance transparency and corporate governance, particularly in response to economic events such as the ASEAN Economic Community's establishment in 2015, which demanded higher standards of corporate practices (Ishikawa, 2021). This is supported by research conducted by Butar (2015), Umiyati (2017), Iriyadi & Yadiati (2017), Adiputra et al. (2019), Purba & Suaryana (2018), Aulia & Siregar (2018), Al 'alam & Firmansyah (2019), Ardianto et al. (2023), Hidayat & Mardijuwono (2020), Permatasari & Nengtyas (2020), Amalia & Triwacananingrum (2022) and Sukarno et al. (2022).

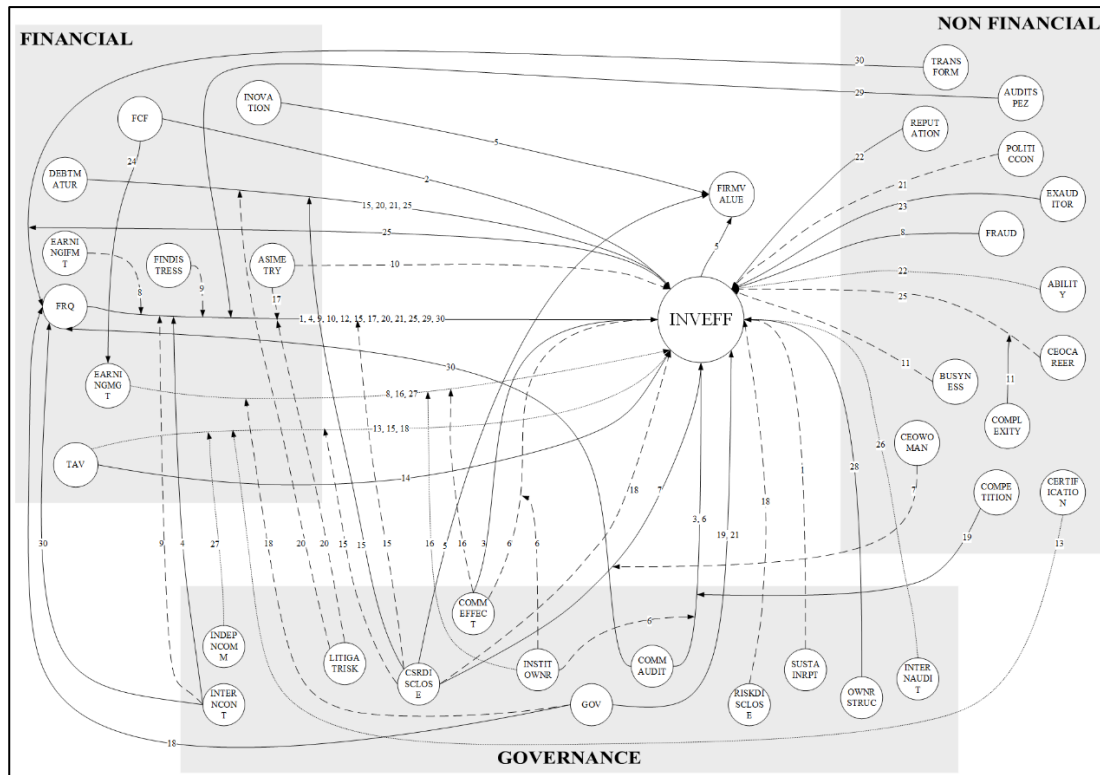
The maturity of a firm's debt affects its investment effectiveness in Indonesia. Debt maturity serves as a tool for creditors to monitor the risk of firm default. The closer the maturity date, the more cautious managers become in using available funds from debt. This has been supported by previous research (Al 'alam & Firmansyah, 2019; Aulia & Siregar, 2018; Permatasari & Nengtyas, 2020; Sukarno et al., 2022). This focus is relevant in light of Indonesia's economic environment, where managing debt effectively is crucial for maintaining financial stability amidst fluctuating global economic conditions.

Tax avoidance is a topic of debate among researchers. Some researchers argue that tax avoidance can lower investment efficiency due to agency problems (Firmansyah & Triastie, 2020; Kuswara & Sari, 2022; Sukarno et al., 2022), while others suggest that it can increase investment efficiency (Ngelo et al., 2022) by making managers more selective in investments. This debate is significant given Indonesia's efforts to reform tax policies and improve compliance, especially following the introduction of the tax amnesty program in 2016 (Ispriyarso, 2019).

Free cash flow influences investment efficiency (Guntoro et al., 2020) but empirical evidence of its impact on investment efficiency in Indonesia is lacking. Meanwhile, financial distress, information asymmetry, and earnings information do not significantly impact investment efficiency (Butar, 2015; Priscilia & Trisnawati, 2023; Purba & Suaryana, 2018). Further research is necessary to identify all variables affecting corporate investment efficiency.

Governance factors, such as internal control, independent commissioners, and CSR disclosure, have been shown to impact investment efficiency positively. Governance factors are often used as moderating variables to improve investment efficiency. Governance discourages opportunistic managerial behavior that may manipulate investment decisions and directly enhances the firm's investment efficiency (Faisal et al., 2021). The focus on these factors reflects Indonesia's ongoing reforms to strengthen corporate governance and enhance transparency within firms, crucial for attracting foreign investment and maintaining competitiveness in the G20 (Greco et al., 2020).

Non-financial factors related to a manager's personality, such as reputation, prior audit experience, and expertise, have a significant impact on investment efficiency. Managers with a strong reputation have greater credibility in making the best investment decisions. Research by Butar (2022) confirms that a manager's reputation notably improves investment efficiency.



## Fostering Investment Efficiency in Indonesian Firms: Empirical Evidence and Recommendations for Future Research

**Figure 2.** Causal Effect Mapping

### Annotation:

- > : Positive Significant
- > : Negative Significant
- > : Insignificant Relationship

### Annotations:

- |                |                              |                 |                          |
|----------------|------------------------------|-----------------|--------------------------|
| • FCF          | : Free cash flow             | • CEOWOMAN      | : CEO Women              |
| • DEBTMATUR    | : Debt maturity              | • CERTIFICATION | : CFO certification      |
| • INOVATION    | : innovation                 | • CEOCAREER     | : CEO career             |
| • EARNINGIFMT  | : Earning information        | • BUSYNESS      | : CEO complexity         |
| • FINDISTRESS  | : Financial distress         | • ABILITY       | : Managerial ability     |
| • ASYMMETRY    | : Information asymmetry      | • EXAUDITOR     | : CEO ex auditor         |
| • FRQ          | : Financial report quality   | • REPUTATION    | : CEO reputation         |
| • EARNINGMGT   | : Earning management         | • TRANSFORM     | : CEO Transformational   |
| • TAV          | : Earning management         | • COMPLEXITY    | : Firm complexity        |
| • INVEFF       | : Investment Efficiency      | • FRAUD         | : Fraud                  |
| • FIRMVALUE    | : Firm value                 | • POLITICON     | : Political connection   |
| • INTERNCONT   | : Internal control           | • AUDITSPEZ     | : Auditor specialization |
| • INDEPNCOMM   | : Independent comm           | • COMMAUDIT     | : Effective audit comm   |
| • LITIGATRISK  | : Litigation risk disclosure | • INSTTOWNR     | : Institutional owner    |
| • RISKDISCLOSE | : Risk disclosure            | • OWNSTRUC      | : Ownership structure    |
| • CSRDISCLOSE  | : CSR disclosure             | • GOV           | : Governance             |
| • SUSTAINRPT   | : Sustainable reporting      | • INTERNAUDIT   | : Internal Audit         |
| • COMMEFFECT   | : Effective commissioner     | • COMPETITION   | : Industry competition   |

Managers who have previously worked as auditors possess comprehensive knowledge of risk management, accounting policies, and industry insights, as well as strong critical thinking and problem-solving abilities. These attributes help managers make investment decisions without being opportunistic. This finding is consistent with Ngelo et al. (2022) research, which suggests that auditors contribute to enhancing overall investment efficiency within firms. This emphasis on managerial quality aligns with Indonesia's broader economic goals of improving leadership within firms to drive sustainable growth.

Transformational leadership and CFO certification are highlighted for their roles in enhancing financial report quality and investment efficiency. Transformational leaders are leaders who prioritize the environment with high morals and ethics and thus can create quality financial reports and have an impact on optimal investment decisions (Iriyadi & Yadiati, 2017). CFOs with certification demonstrate higher levels of knowledge and professionalism when it comes to managing funds obtained from tax avoidance. They are better equipped to provide valuable input that helps in efficiently investing funds (Kuswara & Sari, 2022). These factors are particularly relevant in Indonesia's dynamic economic landscape, where effective leadership and professional qualifications are essential for navigating economic uncertainties and driving firm performance.

External factors such as industrial competition are crucial in influencing investment efficiency. Competition fosters innovation and efficiency but also pressures managers to make strategic decisions amidst uncertainty. According to a recent study by Bimo et al. (2022), competition among industries can enhance the positive impact of corporate governance on investment efficiency. This aspect is vital for understanding how external economic pressures shape corporate behavior in Indonesia's competitive markets.

The research on investment efficiency in Indonesia is deeply interconnected with the country's economic activities from 2015 to 2023. The choice of variables reflects the complexities of the Indonesian economic environment and the ongoing efforts to enhance corporate governance, transparency, and strategic decision-making of the firms. The detailed examination of these factors provides a robust framework for understanding and improving investment efficiency of the firms in Indonesia.

#### *4.3 Future Research Recommendations*

After analyzing the available literature, several suggestions for further research have been proposed. First, researchers can vary the variables used in their study. There are still differing opinions on how tax avoidance affects investment efficiency. Hence, future studies can include governance and non-financial factors as moderators in the relationship between tax avoidance and investment efficiency. Moreover, it is recommended that researchers incorporate external factors such as economic growth, economic policy, fiscal policy, or global economic factors as independent variables in their studies on investment efficiency.

It would be valuable for future research to focus on subsamples of firms that experience either overinvestment or underinvestment or other subsamples that are justified by the researcher. Previous studies on investment efficiency in Indonesia have not explored subsamples in detail. By examining both the sample and subsample levels, researchers can gain a more comprehensive understanding of investment efficiency and its impact from various perspectives.

In addition, given Indonesia's relatively high ICOR compared to its regional peers, comparative studies focusing on successful investment strategies in countries like Malaysia, Philippines, Thailand, and Vietnam could provide valuable lessons. Understanding what these countries are doing differently could help inform policies and practices in Indonesia. Furthermore, there should be a concerted effort to bridge the gap between academic research and practical application. Collaborative projects, where researchers work directly with industry stakeholders, could help translate theoretical insights into practical solutions that address the inefficiencies indicated by the ICOR values.

### **5. Conclusion**

Investment efficiency research in Indonesia from 2015 to 2023 highlights the importance of scrutinizing large-scale investments, particularly in sectors like manufacturing and mining, due to their significant capital expenditures. The exclusion

of finance and insurance sectors is justified to avoid biased results. Key variables such as financial report quality, debt maturity, and earnings management practices are crucial for understanding investment efficiency. High-quality financial reports minimize information asymmetry, fostering informed investment decisions, while earnings management tends to reduce efficiency by prioritizing personal gains. These findings align with Indonesia's efforts to reform corporate governance and enhance regulatory oversight. Non-financial factors, including leadership qualities, managerial attributes, and industrial competition, also significantly impact investment efficiency. Effective governance mechanisms, transformational leadership, and professional certifications play vital roles in robust financial management. Comprehensive firm's strategies addressing both financial and non-financial factors are essential for improving investment efficiency, contributing to Indonesia's economic resilience and global competitiveness.

This study has many benefits for different parties. It provides an overview for scholars on how efficient firm investment is carried out, along with its causes and effects. It also offers investors informative insights, enabling them to enhance their awareness and monitor the factors that impact firm investment decisions. Policymakers can use this study as a resource to develop economic and investment policies that improve the ease of doing business in Indonesia.

It is important to note that this study has some limitations. Firstly, the databases used (Scopus and Sinta) are regularly updated, which means the number of articles included can change frequently. This time-sensitive nature creates uncertainty about the reliability of the information obtained from the databases on a given day. Second, this research uses the "charting the field" method, which involves searching through previous articles on the same topic to visualize the cause-and-effect relationships between variables. While this method is useful, future research can improve upon it by utilizing bibliometric designs and networks using programs like VOSviewer. It is also important to interpret the results with caution and combine them with expert judgment. More sophisticated methods, such as CiteSpace, can be added to validate research topic assessments. Third, this bibliometric study has a major limitation as it only includes articles, book chapters, books, notes, reviews, and conference proceedings published in relevant journals over 10 years. Therefore, it is recommended that future research systematically employ strategies that combine quantitative and qualitative approaches to obtain more robust analyses.

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