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Institutional Ownership and Integrated Reporting in the Digital Age: A Conceptual Exploration of Firm Performance in Malaysia

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Abstract: This concept paper explores the potential moderating role of institutional ownership on the relationship between Integrated Reporting (IR) adoption and firm performance within the context of the digital business era, specifically in Malaysia. Drawing on stakeholder theory and agency theory, the paper highlights the dual role institutional investors can play in shaping a firm's adoption of IR and its subsequent effect on performance. Through a comprehensive review of the existing literature, the paper unravels the unique challenges and opportunities that arise when adopting IR in the digital business landscape, particularly in developing nations with concentrated ownership structures. The study emphasizes the importance of nuanced understanding to promote corporate transparency and sustainable value creation. It aims to guide future research endeavors, informing policymaking and business practices to optimize the benefits of IR in the digital era. The conceptual framework and discussions put forth in this paper are intended to contribute to the broader academic discourse on the evolution of IR practices in the digital business era.

Keywords: *Integrated Reporting, Institutional Ownership, Digital Business Era, Firm Performance*

1. Introduction and Background

Integrated Reporting (IR), which provides an all-encompassing view of a company's performance by incorporating both financial and non-financial data, has been highly commended (Cheng et al., 2014; Dumay et al., 2017). Prior research has examined the connection between IR implementation and various performance and benefits measures, resulting in a variety of conclusions (Lee & Yeo, 2016; Velte & Stawinoga, 2017; Vitolla & Raimo, 2018; Samy, 2019; Adegboyegun et al., 2020; Islam, 2021). Some studies suggest the positive benefits of IR adoption measured by various performance measures, while others indicate otherwise. In the context of digital business in Malaysia, it is suggested that the distinct ownership structure, characterized by significant institutional ownership, can influence the adoption of IR and, in turn, corporate results. Large institutional investors, such as pension funds, insurance companies, and mutual funds, frequently hold substantial interests in companies, exerting significant influence over governance and decision-making procedures. Due to their long-term investment horizon and interest in sustainability, these institutions may advocate for increased transparency, exhaustive information disclosure, and the integration of investor relations (IR) practices (Ioannou & Serafeim, 2012).

In the literature, however, there is a deficiency regarding the preferences of institutional investors regarding IR and whether their advocacy would positively affect firm performance. Atkins and Maroun (2015) investigated the opinions of institutional investors in South Africa regarding the inaugural integrated reports published by firms listed on the Johannesburg Securities Exchange. As demonstrated by studies by Atkins and Maroun (2015) and Solomon et al. (2013), other research has engaged with institutional investors but has primarily concentrated on social and environmental reporting (Muneer, 2020). Existing data, however, do not cast light on whether the correlation between the extent of IR implementation and corporate performance is dependent on the high concentration of institutional ownership. Potentially, the presence of influential institutional investors could strengthen the correlation between IR utilization and business performance. These investors may encourage the adoption of IR in corporations, assuming that such disclosure will strengthen decision-making processes and resource allocation, thereby improving financial performance (Amel-Zadeh & Serafeim, 2018). In addition, these institutional investors may contribute valuable resources and knowledge, thereby assisting corporations in effectively applying IR and maximizing its prospective advantages (Dhaliwal et al., 2014).

On the other hand, the high concentration of institutional ownership may give rise to potential conflicts of interest, thereby weakening the correlation between IR application and business performance. Large institutional investors may prioritize their interests, leading to suboptimal reporting and decision-making procedures (Fama & Jensen, 1983; Shleifer & Vishny, 1997). This could diminish the potential benefits of IR implementation, resulting in a tenuous or even negative relationship between IR and business performance. In light of these contradictory expectations and the dearth of empirical data regarding the conditional relationship between IR implementation, institutional ownership, and corporate performance, it is necessary to conduct additional research. This would cast light on the impact of ownership structure on IR practices and their effect on corporate performance, especially in the context of Malaysia's rapidly evolving digital commerce sector.

Based on the above discussion, the problem in hand is the questions that have emerged regarding the capacity of Integrated Reporting (IR) to convey a comprehensive picture of a company's financial, environmental, social, and governance (ESG) performance, especially during the current digital era. Though some evidence supports the positive outcomes of IR adoption, the driving mechanisms and contextual factors underlying this association are poorly understood, particularly in emerging economies such as Malaysia. Malaysia's unique business environment, characterized by highly concentrated ownership structures and government-affiliated entities, necessitates a more in-depth examination of how ownership concentration may influence the association between IR adoption and firm performance. In light of this, the purpose of this concept paper is to explore the potential moderating effect of substantial institutional ownership on the relationship between IR adoption and firm performance in the context of digital businesses in Malaysia. By examining this conditional relationship, this research will provide a deeper understanding of the factors influencing IR practices in Malaysia's rapidly evolving digital business landscape, thereby facilitating the formulation of strategies to promote comprehensive reporting across diverse businesses. In addition, this research will enhance our comprehension of the interplay between ownership structures, IR adoption, and firm performance in the context of Malaysia's digital business environment. Thus, the following research questions and research objectives are developed:

Research Objective: The primary objective of this study is to investigate the moderating effect of highly concentrated institutional ownership on the relationship between integrated reporting (IR) adoption and firm performance among Malaysia-listed companies. The study aims to provide insights into the factors influencing IR practices and their impact on firm performance in the Malaysian context, with a particular focus on the role of institutional ownership structures.

Research Questions:
How does the adoption of integrated reporting affect firm performance among Malaysia-listed companies?
How does the concentration of institutional ownership influence the relationship between integrated reporting adoption and firm performance?
Is the relationship between integrated reporting adoption and firm performance conditional on the level of institutional ownership concentration in Malaysia-listed companies?

2. Literature Review

Integrated Reporting: Integrated Reporting (IR) has emerged as a crucial mechanism for firms to effectively communicate their sustainability initiatives and achievements to various stakeholders. A plethora of scholarly investigations have examined the diverse factors that contribute to the adoption of Information Retrieval (IR). Eccles and Serafeim (2013) argue that the adoption of integrated reporting (IR) by firms is influenced by external pressures and expectations, including stakeholder demands, regulatory requirements, and industry standards. Moreover, the authors suggest that organizations of greater size and with a substantial impact on society and the environment are more likely to embrace Integrated Reporting (IR) as a strategy for effectively communicating their sustainability initiatives to relevant stakeholders.

A content analysis was conducted by Jamal and Erlane (2016) in Malaysia, focusing on annual reports of real property companies listed on Bursa Malaysia. The analysis revealed that these companies exhibited suboptimal levels of integrated reporting practices. Significantly, the adoption of Investor Relations (IR) practices in the Malaysian market continues to be a voluntary endeavor, with a limited number of companies opting to embrace such techniques. Qaderi, Chandren, and Abdullah (2023) conducted a study in which they observed a rising trend in the adoption of Integrated Reporting (IR) among Malaysian companies, specifically in alignment with the International Integrated Reporting Framework (IIRF). The researchers found notable disparities in IR practices between large-scale enterprises and smaller firms. The authors contend that the implementation of investor relations (IR) has been influenced by the recommendations outlined in the 2017 Malaysian Code of Corporate Governance. The adoption of information retrieval (IR) is increasing, however, there is considerable variation in the quality of its implementation among different corporations. Numerous corporations place a higher emphasis on adhering to regulatory requirements rather than providing a comprehensive assessment of their performance and the generation of value. According to the findings of Grewal and Serafeim (2020), certain companies employ investor relations (IR) as a means to demonstrate their dedication to sustainability, without implementing significant alterations to their operational procedures.

Numerous scholarly investigations have also examined the prospective benefits and drawbacks associated with the adoption of information retrieval (IR) systems in the context of business operations. For example, Matemane and Wentzel (2019), examine the relationship between the quality of integrated reporting (IRQ) and the financial performance of South African banks that are publicly traded on the Johannesburg Stock Exchange (JSE) from 2010 to 2014. The results indicate a positive correlation between IRQ and earnings per share (EPS). However, no statistically significant correlations were found between IRQ and Tobin's q (Q-Ratio), IRQ and return on equity (ROE), IRQ and return on assets (ROA), and IRQ and economic value added (EVA). In summary, the incorporation and execution of Integrated Reporting (IR) practices within corporations are subject to various influences, encompassing external pressures, Corporate Social Responsibility (CSR) disclosure, and regulatory guidance. Although the implementation of IR has been associated with potential advantages, it is crucial to acknowledge that prior research has produced limited and inconclusive findings. Hence, additional research is warranted to comprehensively examine the influence of adopting Investor Relations (IR), specifically regarding its implications on the firm's financial performance, while considering the accompanying costs.

Institutional Ownership in Developing Countries: Institutional ownership exerts considerable influence on corporate governance protocols and the quality of financial reporting, particularly within emerging economies like Malaysia. This is typically manifested through institutional investors such as banks, insurance companies, pension funds, and investment funds, which often own significant portions of publicly traded corporations' equity (Gillan & Starks, 2003). The diverse motivations, investment timeframes, and supervisory capacities of various categories of institutional investors imply that institutional ownership can have unique ramifications for the implementation and influence of Integrated Reporting (IR). Notably, institutional ownership in developing economies is often more concentrated compared to their developed counterparts, signifying that fewer institutional investors possess substantial stakes in corporations (Boubakri, Cosset, & Saffar, 2013; Ghazali, 2007). This concentration of institutional ownership can potentially drive corporate governance and financial reporting practices in several ways. Firstly, institutional owners, by their significant stakes, are often well-positioned to exercise direct oversight over management, thus curtailing any potential agency problems and enhancing overall corporate governance (Shleifer & Vishny, 1997). This ability to monitor corporate affairs closely could be instrumental in promoting the adoption of advanced practices like IR, given its potential to provide a more holistic view of company performance, thereby facilitating more informed decision-making.

Secondly, institutional investors, by their substantial holdings, often have the leverage to influence the composition of the board, thereby shaping the strategic direction of the company (Gillan & Starks, 2003). The board, under the sway of such significant institutional ownership, may be more inclined to adopt progressive reporting strategies like IR, which can provide them with a broader perspective of the firm's operational performance. Lastly, institutional investors, given their fiduciary duties and long-term investment horizons, often demand higher levels of transparency and disclosure from firms (Bushee, 1998). This demand may act as a compelling force driving the adoption of IR. IR, with its comprehensive disclosure of both financial and non-financial metrics, can help satisfy the transparency demands of institutional investors. However, it is important to note that while concentrated institutional ownership could be a boon in terms of promoting good governance and IR adoption, it could also result in potential conflicts of interest. Major institutional investors might prioritize their interests over those of other stakeholders, leading to suboptimal decision-making and reporting practices. Consequently, while concentrated institutional ownership can encourage the adoption of IR, the quality and impact of such reporting might be diluted due to potential conflicts of interest (Shleifer & Vishny, 1997). Given the complex dynamics at play, further research is warranted to explore the nuanced role of institutional ownership in shaping the adoption and impact of IR, especially within developing countries like Malaysia. Such research could yield valuable insights into how corporate governance practices, the demands for transparency and disclosure, and the potential conflicts of interest inherent in concentrated institutional ownership interact to shape the landscape of IR adoption and its subsequent effects.

Institutional Ownership and Adoption of Integrated Reporting: Institutional ownership and its implications for Integrated Reporting (IR) adoption can manifest differently, particularly in developing economies with highly concentrated ownership structures, such as Malaysia, in the age of digital enterprises. Depending on the type of institutional investor and his or her investment preferences, the impact could be either positive or negative. Long-term institutional investors, such as pension funds and insurance companies, tend to demonstrate heightened vigilance towards sustained profitability and value creation in their portfolio companies, a trait that is especially prevalent in the rapidly evolving digital business landscape (Cox, Brammer, & Millington, 2004). Given the growing importance of technology trends and digital transformation initiatives, these investors may support the adoption of IR as a comprehensive tool that provides a 360-degree view of a company's operations, including financial and non-financial metrics, risks, and opportunities (Eccles & Serafeim, 2014; Dumay et al., 2016). In the digital age, where the interconnectedness of business risks and opportunities accentuates the need for more inclusive reporting practices, this shift towards holistic reporting becomes increasingly important.

In contrast, institutional investors with a focus on immediate financial performance, such as hedge funds and mutual funds, may be less concerned with long-term value creation and sustainability issues (Bushee, 2001). In the context of digital businesses, these investors may be hesitant to advocate for the adoption of IR practices because they believe the benefits of comprehensive reporting do not necessarily outweigh the additional costs and complexity associated with it (Flower, 2015; de Villiers et al., 2017). This perception may be exacerbated by the ever-increasing complexity and dynamism that characterize the digital business era, where measuring and reporting a vast array of performance metrics during rapidly shifting technological landscapes and business models may appear difficult. In the context of developing nations like Malaysia, where ownership structures are typically extremely concentrated, this scenario becomes even more complicated. Concentrated ownership can generate conflicts of interest, power imbalances, or a preference for short-termism, thereby impeding the adoption of IR practices designed to improve transparency, accountability, and long-term value creation (Shleifer & Vishny, 1997). The complex relationship between institutional ownership categories, digital business trends, and ownership concentration issues must therefore be thoroughly examined. Such research would contribute to a greater comprehension and facilitate the endorsement of IR practices in these contexts, ultimately benefiting stakeholders and promoting sustainable business practices in the digital age.

The Role of Institutional Ownership as the Moderating Factor: The complex connection between institutional ownership, adoption of Integrated Reporting (IR), and firm performance continues to attract scholarly attention. The relationship's multifaceted nature, as demonstrated by contradictory findings in existing literature, highlights its complexity. Institutional investors' surveillance expertise and advocacy for greater transparency and disclosure can frequently have a positive impact on firm performance (Shleifer & Vishny, 1997; Gillan & Starks, 2003). These findings suggest that institutional investors can enhance the effectiveness of investor relations, thereby enhancing corporate governance, informing decision-making processes, and enhancing stakeholder relations (Eccles & Serafeim, 2014; Barth et al., 2017). Such favorable outcomes are not, however, assured. According to additional studies (Bushee, 1998; Cox et al., 2004), the correlation between institutional ownership and firm performance may be contingent on the specific characteristics of the institutional investor and the peculiarities of the firm. In economies where institutional ownership is concentrated, such as Malaysia, the impact of institutional investors on IR adoption and consequent firm performance may be amplified. Nonetheless, the trajectory of such influence remains unclear, necessitating additional investigation.

This comprehension becomes crucial in the rapidly expanding digital business era. Due to the growing reliance of businesses on data and digital technologies, the demand for comprehensive reports that include both financial and non-financial information has increased. In this context, IR can provide a more comprehensive depiction of a company's performance, as well as its strategies for addressing the myriad risks and opportunities associated with digital transformation. Nonetheless, the incorporation of IR presents obstacles, especially for businesses in developing nations with concentrated ownership structures. Institutional investors with a focus on the short-term may be resistant to adopting IR, citing increased costs and complexity. In addition, the accelerated rate of digital transformation introduces new challenges and uncertainties that may influence the perceived benefits and risks of IR adoption. Understanding the dynamics of institutional ownership is crucial in this context. This knowledge can aid in identifying potential impediments to IR adoption and developing countermeasures. Beneficial would be policy interventions or initiatives designed to educate institutional investors on the merits of IR in the digital business era. Providing companies with assistance in implementing IR, such as guidance or technical assistance, may also be advantageous. In conclusion, the complex connection between institutional ownership, IR adoption, and firm performance in the digital business era, especially in developing nations with concentrated ownership structures, highlights the need for more nuanced, context-specific research. By enhancing our understanding of these dynamics, we can contribute to the formulation of strategies and policies that promote IR adoption, thereby enhancing corporate transparency, accountability, and value creation in the digital age.

Theoretical Framework: The theoretical framework for this study draws on two main theories: stakeholder theory and agency theory. These theories help explain the relationship between integrated reporting (IR) adoption, institutional ownership concentration, and firm performance in the context of Malaysia-listed companies.

Stakeholder Theory: Stakeholder theory posits that organizations are responsible for addressing the needs and interests of various stakeholder groups, including shareholders, employees, customers, suppliers, and the broader community (Freeman, 1984). Integrated reporting, as a comprehensive reporting framework, aims to provide a more holistic view of a company's value creation process, taking into account both financial and non-financial aspects that are relevant to diverse stakeholders (Eccles & Krzus, 2010; Adams, 2015). According to stakeholder theory, the adoption of IR is expected to improve firm performance by enhancing the quality of information available to stakeholders, which in turn supports better decision-making and resource allocation (Dumay et al., 2017; Cheng et al., 2014). Furthermore, IR adoption may signal a company's commitment to transparency, accountability, and long-term sustainability, which can enhance its reputation and relationships with key stakeholder groups (Eccles & Serafeim, 2014).

Agency Theory: Agency theory focuses on the conflicts of interest that can arise between principals (e.g., shareholders) and agents (e.g., managers) in the context of corporate governance (Jensen & Meckling, 1976). Institutional investors, as major shareholders with significant influence over company decisions, can play a critical role in monitoring and disciplining managers to align their actions with the interests of shareholders (Shleifer & Vishny, 1986). In this study, agency theory helps explain the potential moderating effect of institutional ownership concentration on the relationship between IR adoption and firm performance. On the one hand, highly concentrated institutional ownership may strengthen the positive impact of IR adoption on firm performance, as institutional investors are more likely to demand transparent reporting and effective governance practices (Busco et al., 2013; Ioannou & Serafeim, 2012). They can also provide valuable resources and expertise that help firms effectively implement IR and realize its potential benefits (Dhaliwal et al., 2014).

On the other hand, agency theory also suggests that concentrated institutional ownership may create potential conflicts of interest, as large institutional investors may prioritize their interests over those of other stakeholders (Fama & Jensen, 1983; Shleifer & Vishny, 1997). This could undermine the potential benefits of IR adoption and weaken the relationship between IR and firm performance. By integrating stakeholder theory and agency theory, the theoretical framework of this study offers a comprehensive perspective on the interplay between IR adoption, institutional ownership concentration, and firm performance. This framework helps guide the development of research hypotheses and the design of the empirical analysis, contributing to a better understanding of the factors shaping IR practices and their impact on firm performance in the

Malaysian context.

The Conceptual Framework and the Hypotheses Developed: Theoretical grounding is essential to accurately comprehend and elucidate empirical phenomena. In this regard, our theoretical framework for this study finds its roots in two seminal theories, namely, the Stakeholder Theory and the Agency Theory. We draw upon these theories to propose our conceptual framework, explaining the relationships and interactions between Integrated Reporting (IR) adoption, institutional ownership concentration, and firm performance. The conceptual framework for this study is as follows:

Integrated Reporting (IR) Adoption(IRL): This represents the extent to which a firm adheres to a reporting approach that offers a comprehensive picture of its performance. This approach incorporates both financial and non-financial parameters, providing a multi-faceted view that is pertinent to an array of stakeholders (Eccles & Krzus, 2010; Adams, 2015).

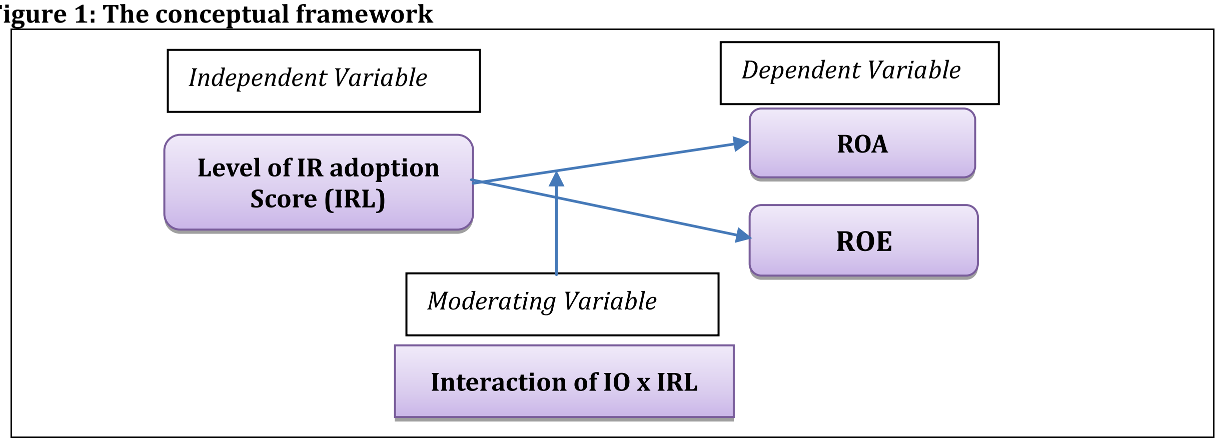
Institutional Ownership Concentration (IO): Refers to the extent of the firm's shares held by institutional entities. The level of concentration can potentially shape the influence these institutions exert on a firm's operations and governance.

Firm Performance: Denotes the proficiency of a firm in managing its resources, operations, and strategies to generate profits and value for its shareholders and stakeholders.

Moderating Effect of Institutional Ownership Concentration(IRL*IO): The effect of IR adoption on firm performance might be contingent upon the degree of institutional ownership concentration in the firm. Concentrated institutional ownership could either augment or diminish the positive impact of IR adoption on firm performance, contingent on the specific characteristics of the institutional investors involved, their strategic preferences, their governance influence, and the potential for conflicts of interest (Shleifer & Vishny, 1997; Fama & Jensen, 1983). The propositions derived from this conceptual framework, to be empirically tested in the study, are as follows:
H1: There exists a positive relationship between the extent of IR adoption and firm performance.
H2: The association between IR adoption and firm performance is moderated by the level of institutional ownership concentration, implying that this relationship is not homogeneous across varying degrees of institutional ownership concentration.

In future studies, we will empirically test these hypotheses through a regression analysis incorporating interaction terms, the details of which will be elaborated in the methodology section. The empirical insights from this investigation will further our comprehension of the interplay between IR practices, institutional ownership structures, and firm performance. This exploration is particularly salient in the context of publicly listed firms in Malaysia, a developing country marked by concentrated institutional ownership.

Figure 1: The conceptual framework



3. Methodology

This section outlines the methodology proposed to investigate the moderating effect of highly concentrated institutional ownership on the relationship between the level of IR adoption and firm performance in Malaysia. The study employs a quantitative research design, using secondary data from annual reports, integrated reports, and financial databases. The methodology consists of the following steps: sample selection, data collection, and data analysis.

Data and Sample Selection: The sample for this study consists of Malaysia-listed companies for the fiscal year 2022. To ensure a representative sample, we will use stratified random sampling, where the firms are first categorized based on industry sectors as classified by the Bursa Malaysia. From each industry category, a random sample of firms will be selected, proportionate to the total number of firms in that sector. This method will allow for a more balanced representation of the various industries in the Malaysian context.

Dependent Variable (DV)

Firm Performance (FP): We use measurement for firm performance, i.e., return on assets (ROA) and return on equity (ROE). These measures can be calculated based on financial data from annual reports or financial databases.

Independent Variables (IVs)

Integrated Reporting Adoption (IR): To measurement of the level of Integrated Reporting (IR) adoption will be established via a content analysis of integrated reports or annual reports with embedded IR elements. This analysis will be grounded in the guidelines and content elements proposed by the International Integrated Reporting Council (IIRC) (Dumay et al., 2017). Content analysis is a commonly utilized methodological approach in accounting research that enables the assessment of the uptake and quality of corporate reporting practices, including IR (de Villiers, Rinaldi, & Unerman, 2014; Dumay et al., 2016). This technique stands out due to its ability to dissect substantial volumes of qualitative data methodically and objectively, such as corporate reports, enabling the identification of underlying patterns and trends (Krippendorff, 2018). By leveraging content analysis, scholars can quantify the presence and frequency of particular keywords or concepts pertinent to IR, thus providing a nuanced understanding of the extent of IR adoption and the quality of reporting practices across firms (McNally et al., 2017). For this study, we will employ content analysis to scrutinize the 2022 financial reports of companies listed in Malaysia to discern the level of IR adoption. This approach will encompass the following steps:

Keyword Identification: Guided by the International Integrated Reporting Framework, we will compile a list of keywords synonymous with IR adoption. As affirmed in previous studies, these keywords signify various facets of IR (Barth et al., 2017; Haji & Hossain, 2016).

Execution of Content Analysis: The financial reports will be manually evaluated against the predetermined keywords to assess the presence and recurrence of IR elements.

Coding and Reliability: A coding scheme will be developed to categorize and quantify the identified keywords in the financial reports. In this scheme, the presence of a keyword is denoted by "1", and its absence by "0" (Krippendorff, 2018).

Percentage of IR Adoption: By concentrating on the content components of the IIRC (2013) integrated reporting framework, we created a disclosure index like that used by Marx and Mohammadali-Haji (2014), Stent and Dowler (2015), and Lee and Yeo (2016). By adopting this approach, we will ensure systematic and objective examination of the financial reports, thus facilitating a comprehensive understanding of the extent of IR adoption among listed companies in Malaysia. Mathematically, the formula can be expressed as follows:

IR adoption score = $\sum$ (keyword score)
Where:

∑ denotes the sum of the keyword scores, and the keyword score is either 1 or 0 depending on the presence or absence of the keyword in the financial report. The maximum possible IR adoption score in this case would be 49 points, indicating full adoption of the identified IR elements. IR adoption percentage = (IR adoption score / Maximum possible IR adoption score) x 100%

Institutional Ownership Concentration (IO): Information on the shareholdings of institutional investors will be collected from annual reports or financial databases. The institutional ownership concentration will be calculated using the percentage of shares held by the top institutional investors or the Herfindahl-Hirschman Index (HHI) based on the shareholdings of all institutional investors in the firm (Yusoff & Lehman, 2018).

The moderating variable

Interaction Term (ID): IRL * IO: To test the moderating effect of institutional ownership concentration on the relationship between IR adoption and firm performance, include an interaction term by multiplying the IR adoption score by the institutional ownership concentration measure.

Control Variables:

Firm Size (FSIZE): Natural logarithm of total assets or market capitalization as a proxy for firm size.
Leverage (LEV): Measure leverage as the ratio of total debt to total assets.
Firm Age (FAGE): Calculate firm age as the number of years since the firm's incorporation.
Industry: Include dummy variables for different industries to control for industry-specific effects.

The final regression model be as follows:

FP = β0 + β1 * IR + β2 * OC + β3 * (IRL * IO) + β4 * FSIZE + β5 * LEV + β6 * FAGE + β7 * Industry + ε

4. Conclusion

This conceptual paper has demonstrated the importance of Integrated Reporting (IR) in the contemporary, digitally dominated business environment. Specifically, this discussion demonstrates the potential moderating effect of institutional ownership on the association between IR adoption and firm performance. It emphasizes the significance of understanding this complex interaction in the Malaysian context and beyond, highlighting the potential for these dynamics to promote corporate transparency and sustainable value creation in the digital business environment. Contribution to the existing literature by presenting a conceptual framework that synthesizes stakeholder and agency theories is the significance of this paper. This integration provides a deeper comprehension of the dynamics that shape IR practices in the context of digital business. It is strongly hoped that this study will stimulate additional academic discourse, generate practical ramifications for firms, institutional investors, and regulators, and contribute to a greater understanding of IR in the digital business era. As we progress further into the digital business era, future research should focus on explaining the complex relationships between IR adoption, institutional ownership, and firm performance. A comparative analysis of diverse institutional settings and ownership structures, especially in developing nations, would provide a more nuanced understanding of these dynamics.

In addition, future research could investigate the unique challenges and opportunities that accompany the adoption of IR in the digital era of business. Adapting IR practices to capture and disseminate the inherent risks and opportunities of digital transformation could be an essential area of research. In addition, it would be advantageous to investigate how the digital business environment influences the perceived value of IR from the perspectives of various stakeholders, with a particular emphasis on various categories of institutional investors. Lastly, future research should also examine the impact of regulatory bodies on the incorporation of IR into digital business operations, either as facilitators or impediments. Such research would provide invaluable insights into the types of policies and initiatives that could effectively promote the adoption of IR in the digital age. It is anticipated that these future research directions will considerably enrich the existing literature and serve as a guide for policy decisions, strategic initiatives, and corporate practices in an increasingly digital business environment.

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