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An Evaluation of Intellectual Capital Disclosure: Evidence from Vietnamese Firms.

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An Evaluation of Intellectual Capital Disclosure: Evidence from Vietnamese Firms

Abstract

Purpose - This study explores the extent of Intellectual Capital Disclosure (ICD) in the annual reports of the top 50 listed Vietnamese companies. It assesses the influence of firm characteristics and corporate governance structure on ICD practices.

Design/methodology/approach - ICD was measured using content analysis, specifically word count percentage. Panel data regression analysis was employed to examine the relationship between firm characteristics, governance structures, and the level of ICD.

Findings - Results reveal that ICD levels among Vietnamese firms sampled are relatively low, averaging 17.43% of the overall annual report word count. Relational capital emerges as the most disclosed category of IC. Firm size, profitability, industry type, number of independent board members, and CEO duality, significantly impact the level of ICD. However, leverage, board size, and the presence of an audit committee show no significant influence on ICD.

Practical implications - These findings offer insights into agency and signaling theories. They provide empirical evidence for stakeholders, academics, and regulatory bodies to comprehend ICD practices and identify factors that could enhance ICD in emerging markets like Vietnam.

Originality/value - This study contributes to the literature by examining ICD practices in an emerging market context and identifying the impact of firm characteristics and governance structures on ICD levels, offering valuable implications for both theory and practice.

Keywords: Intellectual Capital Disclosure; corporate governance; board characteristics; CEO duality; audit committee; Vietnam

1.0 Introduction

Intellectual capital (IC) is recognized as a core component in value-creation processes for businesses operating in highly competitive global markets (Palgunadi et al., 2024). It plays a critical role in establishing competitive advantage and generating substantial value for shareholders (Tayles et al., 2007; Ijaz et al., 2024). Increasing investments are directed towards IC elements, including human resources, marketing, innovation, research and development (R&D), and information technology. This has spurred growing interest in IC across academia and industry (Nuzula et al., 2023). In particular, the extent of Intellectual Capital Disclosure (ICD) in annual reports has garnered notable attention in recent years. However, IC remains central to an information gap exacerbated by economic uncertainties, prompting calls for greater transparency in non-financial metrics related to intangible assets.

Extensive research has examined the determinants influencing ICD in annual reports and other mediums, focusing primarily on corporate governance mechanisms, company characteristics, and market factors (e.g., Abeysekera, 2008; Abhayawansa & Guthrie, 2016). However, findings have been mixed and inconsistent due to varying research methods and contexts. Therefore, this study aims to examine the level of ICD in Vietnamese firms and identify the key factors affecting ICD in an emerging market setting. Examining ICD in Vietnam is particularly relevant given the country's rapid economic development, evidenced by its rising GDP per capita (Tran et al., 2022). Nguyen (2023) further highlights IC as a crucial tool for bolstering economic growth, especially within emerging markets. Thus, our study also seeks to offer recommendations for enhancing ICD in Vietnam, given its potential economic benefits.

Our study makes several contributions to the existing literature. First, while most ICD research focuses on developed, knowledge-based economies like the UK, US, and European and South Asian countries, this paper addresses ICD within an emerging market, Vietnam. According to the Global Intangible Study 2017, Vietnam ranks among the top 60 countries for intangible assets and fourth in Southeast Asia for the proportion of disclosed intangibles (Institute, 2017). Additionally, the Global Innovation Index 2018 ranked Vietnam 46th out of 126 countries for innovation and R&D investment, marking its transition toward a knowledge-based economy (Dutta et al., 2018).

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3 Second, this study provides the first empirical evidence linking ICD practices with firm
4 characteristics and corporate governance structures within Vietnam. This perspective can help
5 shareholders, regulatory bodies, and other stakeholders better understand the drivers of ICD in
6 Vietnamese corporations. Third, previous studies largely offered descriptive analyses of ICD, with
7 few examining the underlying factors. In contrast, our study investigates ICD determinants over a
8 five-year period, providing both cross-sectional and longitudinal insights into the ICD practices of
9 listed Vietnamese firms. Finally, while most studies rely on manual content analysis, our study
10 combines manual and computerized methods for identifying IC information in annual reports,
11 enhancing the accuracy of ICD measurement across reports.
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20 The structure of the paper is as follows: The next section reviews existing studies on IC, including
21 prior analyses of ICD levels and factors. Section 3 presents our descriptive and regression analysis
22 results, followed by a discussion of our findings. The final section addresses study limitations and
23 suggests future research directions.
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29 **2.0 Literature Review**

30 **2.1 *The Concept of Intellectual Capital (IC)***

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33 Although several scholars have explored IC over the last decade due to its essential role in
34 enhancing firms value (Ahmed et al., 2024), there is no universally accepted definition of IC due
35 to its intangibility (Rieg & Vanini, 2023), and appropriate measurement of IC is still debatable
36 (Akkas & Asutay, 2023). Some defined IC as intangible assets; however, not all IC (such as a
37 company's reputation) is captured as intangible assets according to the latter's accounting
38 definitions (Petty & Guthrie, 2000). In other words, the concept of IC is broader than intangible
39 assets as it may include items that are not considered intangible assets (such as human capital or
40 relational capital) (Rieg & Vanini, 2023). Rieg and Vanini (2023) suggested three characteristics
41 for an item to be considered a part of IC, these are: the item should be intangible, nonfinancial,
42 and produce a competitive advantage for the company. Moreover, some scholars have defined IC
43 more broadly. For example, Erik Sveiby (1997) classified IC into employees' competence, internal
44 structure, and external structure. Roos and Roos (1997) categorized IC as human capital,
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3 organizational capital, and customer and relationship capital. Aljuboori et al. (2021) considered
4 intellectual capital as the intangible assets that create value and help in maximizing a company's
5 wealth. Kucera and Dvorakova (2023) described intellectual capital as intangible knowledge
6 resources that can help in increasing the profit of the company through utilizing such nonmonetary
7 resources. Paoloni et al. (2023) have defined IC as staff's experience and skills and the quality of
8 information control and processes, which can transform a company into a valuable entity.
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15 Despite such divergences in the definition of IC, the Organization for Economic Co-operation and
16 Development (OECD) proposed two sub-categories of IC: human capital and structural capital
17 (OECD, 1999). According to Petty and Guthrie (2000), structural capital includes items such as
18 proprietary software systems, distribution channels, and supply chains, whereas human capital
19 refers to human resources inside the company and external resources such as customers and
20 supplies. However, the most common categories of IC that were adopted by prior work are human
21 capital, relational, and structural capital (Petty et al., 2008; Paoloni et al., 2023; Ahmed et al.,
22 2024). In this study, we used the classification of IC under human capital (employees' know-how,
23 experience, professional skills, and knowledge), structural capital (organizational procedures,
24 cultures, routines, systems, and technology capacities), and relational capital (external
25 relationships with customers, partners or suppliers).
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36 ***2.2 Intellectual Capital Disclosure (ICD)***

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39 Companies are motivated to voluntarily disclose information about their IC as financial statements
40 do not present a true and fair view of a company's (non-physical) value, which may underestimate
41 both earnings and book value of equity (Lev et al., 2005). Disclosing more information about the
42 company's IC helps the company to avoid misevaluation of its performance and underestimating
43 its ability to generate future benefits (Kucera & Dvorakova, 2023). Moreover, prior literature has
44 proved that the voluntary disclosure of IC mitigates information asymmetry and enhances the
45 decision-making process for investors and other stakeholders (Rieg & Vanini, 2023). However,
46 there is a lack of regulatory reporting standards, format, content, and framework for IC information
47 disclosure, and there is no clear evidence of IC accounting recognition in a company's financial
48 statements (Maaloul & Zeghal, 2015).
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5 Therefore, organizations attempted to find different ways to present IC information (Oliveras et
6 al., 2008). Additionally, given the fact that there is no clear method of how to present IC
7 information, scholars who attempted to examine the extent of ICD have suggested different
8 approaches to how ICD can be measured. These approaches vary from solely narrative to
9 quantitative forms of information (Edvinsson & Malone, 1997; Warden, 2003). Further, Jardon et
10 al. (2021) stated that since intellectual capital is intangible, it is very important to choose a method
11 that includes observable indicators that help to quantify such a concept. With the aim of an
12 operational concept, we adopted the definition of ICD given by Rahman and Ridhuan (2013), as a
13 narrative content that discloses information about pre-defined IC in annual reports. This disclosure
14 includes not only information about IC in reports that are purposely assigned solely to IC
15 information but also information disclosed throughout the annual reports that may not include IC
16 explicitly but is considered to represent IC.
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27 Several efforts were taken in Vietnam to enhance the quality of companies' disclosed information
28 aiming to ensure the transparency of companies' reports. According to Hieu & Lan (2015),
29 Vietnamese regulatory agencies have formulated comprehensive guidance about the information
30 disclosure of Vietnamese in market securities. For example, in 2010, the Ministry of Finance in
31 Vietnam promulgated Circular No. 09/2010/TT-BTC which provides guidance on information
32 disclosure of these companies, which was also supplemented by Circular No. 52/2012/TT-BTC
33 that was issued in 2012 which provides more detailed guidelines and aims to build more
34 transparent securities market (Hieu & Lan, 2015). Further, to promote economic growth in
35 Vietnam, regulatory agencies aimed to enhance Vietnamese companies' annual report quality. This
36 was supported by the Vietnam Listed Company Awards, which is organized annually and awarded
37 to companies that have the best annual reports (based on the content and format of the annual
38 report) (Tran & Ha, 2023).
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50 Moreover, the Global Innovation Index 2018 ranked Vietnam at 46 over 126 countries for
51 continuous innovation and R&D investment, which indicates the increasing development in
52 the knowledge-based economy in Vietnam (Sumitra Dutta, 2018). This implies that the economy
53 in Vietnam is transitioning from traditional manufacturing to a knowledge-based economy, which
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3 emphasizes the need for advanced science and technology and high-quality human resources.
4 Hence, Vietnamese companies are now more required to invest in IC to boost their value and
5 strengthen their competitive advantage (Kweh et al., 2022). Accordingly, companies listed in
6 Vietnam are now more motivated to disclose information related to IC aiming to enhance the
7 transparency of their annual reports and to meet the expectations of the Vietnamese regulatory
8 agencies.
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14 15 **2.3 Prior ICD Studies**

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19 Olsson (2001) attempted to determine the level of human capital disclosure in the annual reports
20 of the eighteen largest firms in Sweden and found that the percentage of human resources
21 information provided in the annual reports did not exceed 7% of the total information reported.
22 The researcher concluded that there was a significant lack of transparency in human capital
23 disclosure. Bontis (2003) examined the level of ICD for Canadian firms and found a low level of
24 ICD in the annual reports of these companies. Moreover, some studies attempted to compare the
25 level of ICD among countries. For instance, Vandemaele et al. (2005) sampled 60 firms' annual
26 reports from the Netherlands, Sweden, and the UK for three years 1998, 2000 and 2002 to
27 investigate ICD practices. Using the content analysis, their results showed that there were
28 differences among countries in ICD practices and an increasing trend in the amount of disclosure
29 over the study period. The findings of another work identified by Vergauwen and Van Alem (2005)
30 who examined the level of disclosure in the Netherlands, France, and Germany, reported
31 significant differences in ICD among these countries. Moreover, Guthrie et al. (2006) investigated
32 the ICD of firms in Australia and Hong Kong and found that there was still an almost low in level
33 of ICD, and the disclosures were primarily presented in qualitative rather than quantitative forms.
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39 Some studies examined the determinants of ICD. For example, Haniffa and Cooke (2002) and
40 Archambault and Archambault (2003) stated that disclosure practices involve complex methods
41 and are influenced by a wide set of factors such as company size, industry type, profitability,
42 leverage, ownership structure, type of auditor, proportion of independent directors on board and
43 others. Using a sample of Italian listed firms, Amendola et al. (2023) stated that ICD is
44 significantly related to some firm characteristics such as capitalization, profitability, productivity
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3 and financial structure. In another work, Nuzula et al., (2023) reported that firm size and ownership
4 structure positively and significantly affect ICD for Indonesian listed firms.
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8 ***2.4 Theoretical Framework and Hypotheses Development***

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11 Standing on the fact that ICD is voluntary, prior studies that examined ICD have implemented
12 several theories in explaining companies' tendencies toward ICD, such as agency theory and
13 signaling theory.
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18 *2.4.1 Agency Theory*

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22 Agency theory explains the relationship between principals and managers within an organization,
23 who hold responsibility for voluntary disclosure (Wallace et al., 1994). Voluntary disclosure helps
24 reduce conflict costs between a company and its stakeholders, particularly creditors (Oliveras et
25 al., 2008; Nguyen et al., 2024). The theory posits that managers have access to extensive internal
26 information not available to principals but critical to the company's operations, leading to
27 information asymmetry between the two parties (Nguyen et al., 2023). Thus, increased voluntary
28 disclosure reduces information asymmetry, meets shareholder needs, and enhances managerial
29 legitimacy (Ali et al., 2022). Applying agency theory to explore Intellectual Capital Disclosure
30 (ICD) suggests that greater voluntary disclosure diminishes agency costs and information
31 asymmetry, especially in the absence of a clear regulatory framework for ICD (Paoloni et al.,
32 2023). Additionally, as this study examines the impact of corporate governance mechanisms on
33 ICD, agency theory supports our hypotheses, aligning with findings that effective corporate
34 governance reduces information asymmetry, mitigates agency issues, and improves reporting
35 quality (Salehi et al., 2020).
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50 *2.4.2 Signaling Theory*

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53 Signaling theory posits that companies are motivated to increase their level of disclosed
54 information to signal performance quality and avoid misevaluation by investors (Ali et al., 2022).
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3 Investors often perceive companies with lower levels of disclosure as higher-risk investments
4 (Nguyen et al., 2023). Additionally, signaling theory suggests that companies aim to attract
5 potential investors by offering detailed information about products, future plans, growth potential,
6 and expansion strategies (Kang & Gray, 2011), facilitating precise evaluation (Edvinsson &
7 Malone, 1997). This theory implies that managers are inclined to highlight their achievements and
8 positive performance, using reporting practices to convey favorable signals to the market (Senani
9 et al., 2022). Rieg and Vanini (2023) note that companies with high levels of intellectual capital
10 (IC) are motivated to disclose more information, as ICD is considered positive and can enhance
11 company assessment, attracting further investment opportunities. Thus, applying signaling theory
12 to ICD suggests that firms tend to signal their IC to investors, aiding them in investment decisions.
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22 Overall, the theories discussed above are mutually consistent, explaining ICD in terms of a cost-
23 benefit trade-off (Beattie & Thomson, 2007). Following is a discussion of the firm characteristics
24 and corporate governance mechanisms included in our research and their related formulated
25 hypotheses.
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32 *2.4.3 Firm Size*

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36 Larger firms possess the necessary resources and expertise to achieve a higher level of voluntary
37 disclosure (Nuzula et al., 2023). According to signaling theory, companies often disclose
38 information to signal their strong performance and attract investors, which is particularly relevant
39 in a market like Vietnam, where attracting both local and international investors is crucial for
40 capital accumulation (Nimer et al., 2023). Given the rapid economic development and increasing
41 globalization of the Vietnamese market, larger firms are expected to exhibit a greater emphasis on
42 transparency to bolster investor confidence and secure necessary funding.
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50 Prior research has established that larger firms tend to disclose more IC information voluntarily.
51 For instance, Bozzolan et al. (2003) and García-Meca et al. (2005) found that firms of considerable
52 size often engage in greater disclosure practices. In an analysis of 126 Australian firms, Brügger
53 et al. (2009) confirmed that firm size positively influences ICD. Likewise, Sudibyo and Basuki
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(2017) identified a positive correlation between firm size and ICD levels in Indonesian firms. However, contrasting findings from Williams (2001) and Bukh et al. (2005) indicate that firm size may not always significantly impact ICD. In the context of Vietnam, despite these mixed results, it is anticipated that firm size positively influences the level of ICD. Larger Vietnamese firms, with their enhanced resources and experience, are better positioned to disclose more comprehensive IC information, which aligns with the increasing expectations for corporate transparency in the country's evolving economic context. Therefore, we propose the following hypothesis:

H1: There is a significant positive relationship between firm size and the level of IC disclosure.

2.4.4 Profitability

Profitability serves as a crucial indicator of management performance (Singhvi & Desai, 1971). In line with agency theory, managers of highly profitable firms are assumed to be more motivated to voluntarily disclose information, as this can help justify their compensation, secure their positions, and enhance shareholder confidence in their performance (Rouf, 2011). Additionally, signaling theory posits that profitable companies tend to disclose more information to highlight their achievements and distinguish themselves from competitors (Birjandi et al., 2015). Thus, profitability is recognized as a key determinant influencing the level of voluntary disclosures (Healy & Palepu, 2001).

Empirical findings regarding the relationship between profitability and ICD have been inconclusive. While García-Meca et al. (2005) and Ferreira et al. (2012) identified a positive relationship, other studies, such as Williams (2001) and Bozzolan et al. (2006), confirmed a significant negative relationship. Taliyang and Jusop (2011) reported an insignificant effect of profitability on ICD. Within the Vietnamese context, where firms are increasingly focused on improving transparency and enhancing their reputations to attract foreign investment, it is anticipated that managers of high-profit firms will be motivated to increase their levels of ICD. By doing so, they can safeguard their positions and set their firms apart in a competitive market. Therefore, we propose the following hypothesis:

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3 **H2:** There is a significant positive relationship between profitability and the level of IC disclosure.
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6 7 *2.4.5 Leverage*

8 Leverage refers to the extent of debt a company carries. According to agency theory, the separation
9 between management and ownership can lead to conflicts of interest, resulting in agency costs.
10 Jensen and Meckling (1976) argued that reliance on debt financing increases these agency costs.
11 Fama and Miller (1972) suggested that voluntary disclosure can mitigate such costs. Given that
12 intellectual capital (IC) is recognized as a critical resource for organizations seeking competitive
13 advantages (Soon Yau et al., 2009), highly leveraged firms may be inclined to disclose more IC
14 information as a means of reassuring creditors and other stakeholders.
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22 Several studies have confirmed a positive relationship between leverage and the practice of ICD.
23 For instance, Brügggen et al. (2009), Oliveras et al. (2008), and White et al. (2007) found that firms
24 with higher leverage tend to disclose more information. Mujiani et al. (2020) further supported
25 this view, suggesting that firms with substantial debt face heightened scrutiny from creditors,
26 necessitating greater transparency to demonstrate their commitment to debt covenants.
27 Conversely, Ferreira et al. (2012) and Kang and Gray (2011) reported a negative association
28 between leverage and ICD, while Nuzula et al. (2023) found an insignificant relationship in the
29 context of Indonesia.
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38 In the Vietnamese market, where businesses are navigating an evolving economic context and
39 increased scrutiny from stakeholders, firms with high leverage are anticipated to disclose more
40 information voluntarily to signal their capacity to meet debt obligations. This transparency is
41 essential for maintaining investor confidence and ensuring continued access to financing. Thus,
42 we propose the following hypothesis:
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48 **H3:** There is a significant positive relationship between leverage and the level of IC disclosure.
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51 *2.4.6 Industry Type* 52 53 54 55 56 57 58 59 60

The examination of industry type's effect on ICD is warranted due to the varying informational needs of potential investors across different sectors. Specifically, the demand for IC information tends to be more pronounced in industries characterized by significant earnings variability (Wong & Gardner, 2005). Additionally, Bozzolan et al. (2006) highlighted that strategies for enhancing competitive advantages differ among industry sectors, further supporting the notion that the level of ICD is influenced by the specific industry in which a firm operates.

Empirical research regarding the relationship between industry type and ICD has produced inconsistent results. Studies by Cordazzo and Vergauwen (2012), Oliveras et al. (2008), and Ramadan and Majdalany (2013) identified industry type as a significant positive determinant of ICD. In contrast, De Silva et al. (2014) and Ferreira et al. (2012) found no significant association between industry type and the level of ICD.

Industries such as technology and finance may experience heightened demand for IC disclosure in Vietnam due to their reliance on intangible assets and the competitive nature of these markets. Firms operating in these sectors are likely to recognize that enhanced transparency in their IC practices can attract investors and improve stakeholder confidence. Therefore, we anticipate variations in the level of ICD among different industry types within the Vietnamese context. Consequently, we hypothesize the following:

H4: There is a significant positive relationship between industry type and the level of IC disclosure.

2.4.7 Board Size

The relationship between board size and the level of ICD has been the subject of numerous empirical studies; however, the ideal board size remains a topic of debate (Aly et al., 2024). According to resource dependency theory, an increase in the number of board members can provide a company with essential resources and expertise (Koufopoulos et al., 2020). Conversely, agency theory posits that larger boards may exacerbate agency problems due to difficulties in communication and coordination (Cheng, 2008). John and Senbet (1998) noted that while a larger

board might enhance monitoring capabilities, the associated costs, such as reduced effectiveness in communication, could undermine these advantages. As a result, an overly large board may hinder effective oversight and create opportunities for executives to engage in manipulative practices.

Empirical evidence presents mixed findings regarding the influence of board size on ICD. For instance, a study of European biotechnology firms by Cerbioni and Parbonetti (2007) found a positive relationship between board size and ICD. Similarly, Vitolla et al. (2020) reported a positive correlation between board size and the quality of ICD. In contrast, Cheng and Courtenay (2006) found no significant association between board size and the level of ICD. Looking at the context of Vietnam, where corporate governance structures are underdeveloped, having a larger board may facilitate the acquisition of diverse perspectives and expertise, thereby enhancing the overall quality of IC disclosure. This increased diversity can improve decision-making processes and encourage a more robust approach to reporting IC information. Therefore, we hypothesize that a larger board size positively influences the level of ICD in Vietnamese firms:

H5: There is a significant positive relationship between board size and the level of IC disclosure.

2.4.8 Board Composition

Board composition refers to the proportion of independent non-executive directors relative to the total number of directors (Haniffa & Cooke, 2002; Aly et al., 2023; Nimer et al., 2024). The presence of independent directors is essential for monitoring and controlling the opportunistic behavior of executive directors (Jensen & Meckling, 1976). According to agency theory, independent directors enhance oversight and promote accountability among board members (Aly et al., 2023). White et al. (2007) identified board independence as a crucial determinant of voluntary ICD. Similarly, Whiting and Birch (2016) found that having a majority of independent directors significantly boosts ICD levels in Australia and New Zealand.

However, not all studies align with this perspective; for instance, Chandraratne et al. (2021) found no significant relationship between board independence and ICD. Despite these mixed findings,

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3 the role of independent directors is particularly relevant in the Vietnamese context, where
4 corporate governance practices are still maturing. Independent directors can bring diverse
5 perspectives, enhancing the board's ability to advocate for transparency and accountability in IC
6 reporting. Given the evolving nature of corporate governance in Vietnam, the presence of
7 independent directors is anticipated to positively influence the level of ICD. Therefore, we
8 hypothesize that a higher proportion of independent directors on the board is associated with a
9 greater level of IC disclosure in Vietnamese firms:
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17 **H6:** There is a significant positive relationship between board composition and the level of IC
18 disclosure.
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22 *2.4.9 Chief Executive Officer (CEO) Duality*

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26 Corporate governance principles issued by the OECD advocate for the separation of the roles of
27 chairman and CEO, emphasizing that this segregation benefits firms and investors by enhancing
28 reporting transparency (OECD, 2015). According to agency theory, separating these roles reduces
29 agency costs (Ali et al., 2022) and improves internal control quality, which is associated with
30 higher levels of ICD (Khlif et al., 2021). When the roles of CEO and chairman are combined, it
31 can lead to increased power for the CEO, potentially allowing them to prioritize personal interests
32 over those of shareholders (Mubarik et al., 2019).
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40 Empirical studies support this view; for instance, Gul and Leung (2004) found that CEO duality is
41 linked to lower levels of voluntary disclosure. Cerbioni and Parbonetti (2007) also reported a
42 negative association between CEO duality and ICD. In a longitudinal study of Portuguese
43 companies, Rodrigues et al. (2017) demonstrated that CEO duality resulted in diminished ICD
44 over time. In the Vietnamese corporate context, the presence of CEO duality may exacerbate
45 concerns regarding transparency and accountability. Given the traditional practices in many
46 Vietnamese firms, where leadership roles are often consolidated, we anticipate that CEO duality
47 will negatively impact the level of ICD. Thus, we hypothesize that:
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3 **H7:** There is a significant negative relationship between board CEO duality and the level of IC
4 disclosure.
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8 *2.4.10 Audit Committee* 9

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11 In corporate governance literature, the presence of an audit committee is widely regarded as an
12 effective mechanism for enhancing governance and achieving strategic goals (Turley & Zaman,
13 2007; Abdelqader et al., 2022). From the perspective of agency theory, the audit committee
14 functions as an internal governance mechanism that strengthens internal control processes and
15 reduces agency costs, serving as a critical tool for enhancing ICD (Li et al., 2012). Xie et al. (2003)
16 emphasized that audit committees play a vital role in monitoring the actions of the board of
17 directors.
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25 Research indicates that an effective audit committee can significantly enhance a firm's disclosure
26 practices, thereby reducing information asymmetry related to IC (Li et al., 2012). Additionally, the
27 presence of an audit committee has been associated with more reliable financial reporting and
28 improved quality and transparency of disclosures (Wong & Gardner, 2005). Mubarik et al. (2019)
29 found a positive relationship between the existence of an audit committee and ICD. *Again, in*
30 *Vietnam, where corporate governance practices are still developing, the establishment of audit*
31 *committees can be particularly impactful. Given the increasing emphasis on transparency and*
32 *accountability in Vietnamese firms, we anticipate that the presence of an audit committee will*
33 *positively influence the level of ICD by fostering greater oversight and enhancing the quality of*
34 *information disclosed. Thus, we hypothesize that:*
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44 **H8:** There is a significant positive relationship between the presence of an audit committee and
45 the level of IC disclosure.
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51 **3.0 Methodology** 52

53 *3.1 Data Collection and Sample* 54 55 56 57 58 59 60

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5 The research population comprises all listed companies on the Ho Chi Minh Stock Exchange
6 (HOSE) as of the end of October 2019. However, our sample includes the top 50 largest companies
7 based on their market capitalization. This selection is justified by the expectation that company
8 size plays a significant role in determining the level of ICD. Larger companies typically have more
9 resources and greater stakeholder scrutiny, leading to more comprehensive and standardized
10 reporting practices. Therefore, focusing on the largest companies allows for a meaningful
11 comparison of ICD practices among firms expected to follow similar reporting standards and
12 provides insights that are more likely to influence market trends and regulatory frameworks.
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21 Data for the current study was collected for the period (2014-2018) from the annual reports as they
22 are considered the most representative and reliable data source for the examination of ICD
23 practices; data for firms' characteristics and corporate governance factors was collected manually,
24 either from annual reports or from companies' websites. To detect the variations in the level of
25 ICD among different sectors, we divided the sample into two groups, the first one includes high-
26 tech industries, which are rich in intellectual capital, and the other group includes traditional
27 industries (Boujelbene & Affes, 2013). In more detail, biotechnology, entertainment, Information
28 Technology (IT), distribution, retail, media, software, telecommunications, high-tech
29 manufacturing, and web services sectors are considered knowledge-intensive industries and were
30 included in the first group. Knowledge-intensive industries include sectors that apply knowledge
31 and technical complexity in their production process (Nguyen, 2023). Therefore, including the
32 aforementioned sectors in a separate group is justified as we aim to examine whether companies
33 operating in these sectors have a higher level of ICD or not. Further, these sectors are expected to
34 have a higher level of R&D and hence a higher level of IC. The second group includes traditional
35 industries included food, automobiles, chemicals, manufacturing, oil, tourism, electronics,
36 construction, and clothing sectors. Table 1 shows the sample allocation by industry.
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50 **Table 1 is about here**

51 52 53 *3.2 Variables Measurement* 54 55 56 57 58 59 60

3.2.1 Measurement of IC disclosure

To detect ICD, we have implemented the content analysis method. Adopting the content analysis to measure ICD is justified as it was implemented by several studies that examined ICD (see for example, Cordazzo & Vergauwen, 2012; Sudibyo & Basuki, 2017; Amendola et al., 2023). Further, content analysis allows coding the information included in companies' annual reports, which facilitates quantifying and analyzing the volume and quality of the disclosed information (Rieg & Vanini, 2023). Content analysis can be conducted by two approaches, either by computer search or manual search. A computer aided approach involves frequency counting of words or references objectively, while a manual approach investigates the underlying themes in the examined text and is considered a subjective technique (Smith & Taffler, 2000). Each of these techniques has its unique advantages and drawbacks. While the manual method has been criticized for being time and effort consuming, subjective, and hard to keep consistency, the automated or computerized method has also been criticized as it does not capture and codify images or tables and does not allow researchers to evaluate the quality of narrative or recognize the perceptive value of the text (Alshhadat, 2018). Therefore, this study will combine the two approaches into a single method to overcome these problems; employing the computerized content analysis software to locate IC references for large sample numbers (Aljifri & Hussainey, 2007), and subsequently analyze the text manually by considering the relevant phrases, sentences, or paragraphs, so that the words are not separated from their meaning. This mixture of methods is less subjective and can lead to a deeper analysis.

Regarding measuring the level of ICD, several methods were implemented by prior research. For example, some studies adopted a dichotomous procedure to score the items disclosed in the annual reports (Abdelqader et al., 2021; Mehrotra et al., 2018; Sudibyo & Basuki, 2017). However, this method can be criticized as it does not show the emphasis level assigned for a specific content category (Li et al., 2008). Another commonly implemented method is to use sentences as a unit of analysis; the sentence-based coding instrument is argued to be more reliable than any other coding unit (individual word or paragraph). This is because the meaning of an entire sentence is less ambiguous than a single word (Campbell & Rahman, 2010; Milne & Adler, 1999). Nevertheless, coding sentences would be complicated because a sentence may contain more than one category

(Beattie et al., 2004). Hence, this study will adopt the word count percentage method introduced by Li (2010) to capture the level and volume of ICD. As a method of measuring the level of disclosure, word count has been applied by various studies and is suggested to be substantially more reliable than all levels of measurement (Campbell & Rahman, 2010; Haniffa & Cooke, 2002; Kothari et al., 2009).

Under this method, the number of words which relate to each IC item was counted and added together to arrive at an IC word count for each company, and then divided by the total word count of the annual report (Li, 2010). The formula for the computation of ICWC% for each firm is shown as follows:

$$ICWC\% = \frac{\sum_{i=1}^{N_j} X_{ij}}{K_j}$$

where k_j = total word count of the annual report for j th firm,

n_j = the number of IC items for j th firm, $n_j = 61$,

X_{ij} = total word count of i th IC item disclosed,

Implying that $0 \leq ICWC\%_j \leq 1$.

This method codes the annual report under “phrase”, or “pieces of information” (Beattie & Thomson, 2007) and measures ICD by word count to avoid the disadvantage of coding sentences in terms of whether there is more than one theme in a unit of sentence (Li, 2010). Three steps were adopted to code an annual report into “phrases”. First, we selected the sentences containing IC information. Second, we divided such sentences into ‘phrases’ and selected those relating to IC. Third, we coded ‘phrases’ under each relevant item(s) in the research instrument. If a “phrase” involves more than one item in the IC checklist and is unable to be split, it will be coded and added under all related items and those words will be counted and distributed to all the items coded. Furthermore, this study also used the checklist of intellectual capital items developed by Li (2010). This checklist is considered the most widespread list of IC information, covering 61 items. Table 2 outlines the full list of 61 IC items.

Table 2 is about here

3.2.2 Measurement of Independent Variables

This section presents the measurements of the independent variables examined in this research including company characteristics (firm size, profitability, leverage, and industry type), and corporate governance factors (board size, board composition, CEO duality, and audit committee presence). Firm size was measured by calculating the natural logarithm of the company's total assets, profitability was measured by the Return on Assets (ROA) ratio, and leverage was measured by the debt ratio. Regarding board size, we used the number of board members as a proxy for this variable. We used the percentage of independent non-executive directors from the total number of board members as a measurement for board composition. Finally, a dummy variable was used to measure industry type (1 if the company belongs to the knowledge-intensive group and 0 otherwise), CEO duality (1 if the chairman and CEO are the same person, 0 if not), and audit committee presence (1 if there is an audit committee in a firm and 0 otherwise). Table 3 summarizes the measurements of these variables.

Table 3 is about here

3.2.3 Study Model

A longitudinal study is proposed to provide an understanding of long-term economic changes and changes in the complex processes that affect organizations in general and the development of ICD in particular over time (Abeysekera, 2008; Alshhadat, 2018; Brügger et al., 2009). Hence, panel data regression analysis was conducted using the model shown below:

$$ICD = \beta_0 + \beta_1 FSIZE_{it} + \beta_2 ROA_{it} + \beta_3 LEV_{it} + \beta_4 INDTYPE_{it} + \beta_5 BSIZE_{it} + \beta_6 INED_{it} + \beta_7 DUAL_{it} + \beta_8 AUDCOM_{it} + \epsilon_{it}$$

Where:

ICD = Intellectual capital disclosure Word count percentage,

FSIZE= natural logarithm of total assets; (a proxy for firm size);

ROA = Return on assets (a proxy for firm performance: profitability);

LEV = firms' leverage (ratio of total debt to total shareholders' equity)

INDTYPE= Sector represented by a dummy variable. The dummy variable is equal to 1 if the company is in the knowledge-intensive industry and zero if the traditional industry

BSIZE= Board of director size (number of members)

INED = Proportion of non-executive directors on board (a proxy for board composition, %); 0 if otherwise;

DUAL= if the CEO and the chairman are occupied by the same person (Dummy variable equal to 1 if yes and zero is no)

AUDCOM= Audit committee presence (dummy variable equals 1 if there is an audit committee in a firm, otherwise 0);

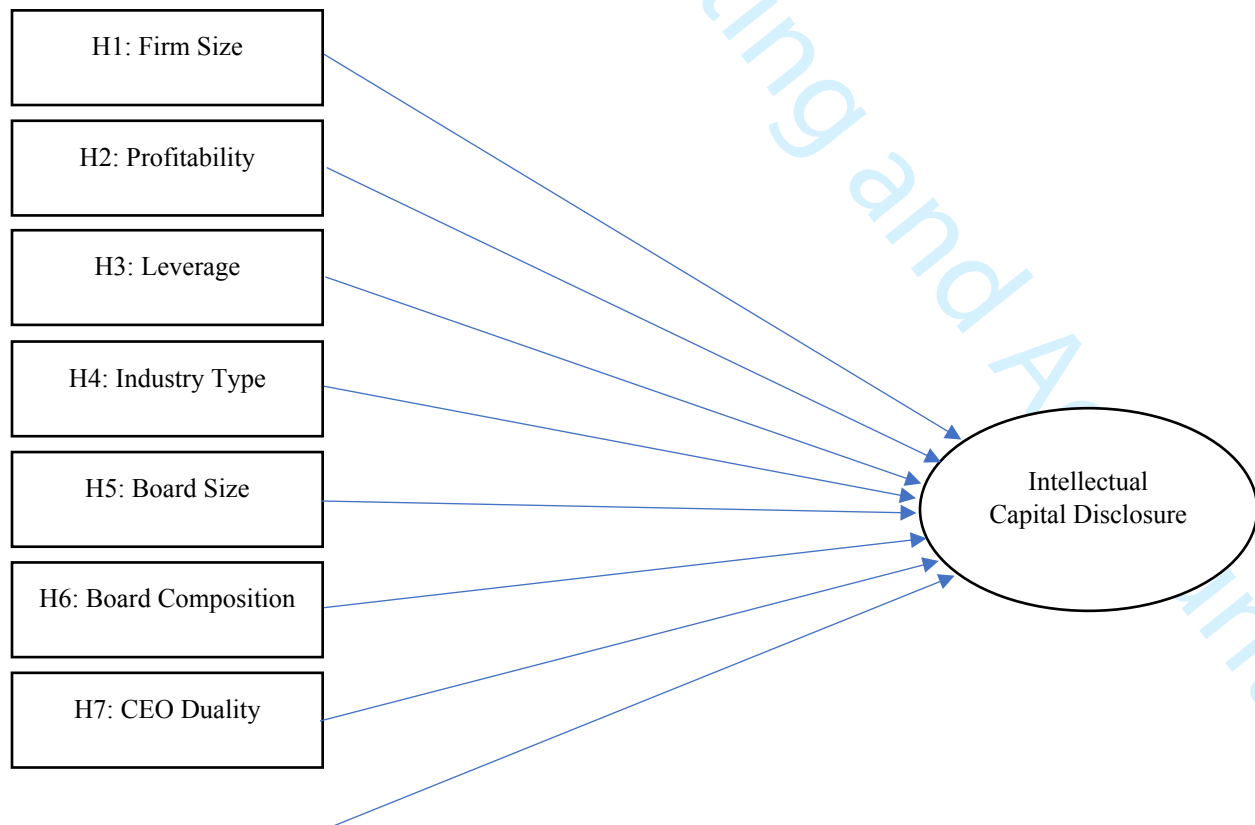
β, ε = parameters;

i = the i th observation and t refers to the time

3.2.4 Theoretical Model

Figure 1 presents the proposed relationships between our research variables.

Figure 1 Theoretical model of the study



H8: Presence of Audit
Committee

4.1 Descriptive Analysis

Table 4 presents the descriptive statistics of both the overall and subcategories of ICD (human capital-HC, structural capital-SC, and relational capital-RC) levels for the sampled firms. Table 4 shows that ICD accounts for an average of 17.43% of the overall annual report word count, ranging from a minimum of 7.20% to a maximum of 38.8%, and a standard deviation of 5.26%. Such results are consistent with the level of ICD reported by Ismail (2011) and Nurunnabi et al. (2011) in developing countries. In the subcategory level, relational capital ranks highest at 6.51% followed by human capital (5.74%), then structural capital (5.18%) of the total annual report word count. The explanation for the low level of ICD is that there is a lack of a voluntary reporting framework within Vietnamese accounting bodies. Furthermore, the vocabulary used in the annual reports might be somehow incomprehensible and difficult to refer to IC information.

Table 4 is about here

Despite the low overall level of ICD, Table 5 shows that the level of ICD slightly increased over the five-year period of study, from 15.31% to 19.17%. Again, the relational capital accounts for the largest portion of the total ICD with an average at 37.23%. The explanation of the high level of awareness of relational capital information is that networks as well as social relations are strategically important for Vietnamese firms. In addition, noticeably that the increase in the overall IC information disclosed, and human capital disclosure (ranging from 31.88% to 35.51% over the 5 years) is a sign of the Vietnamese economy's transformation into a knowledge-intensive sector through the developments of human resources and capital.

Table 5 is about here

Further, Table 6 presents the descriptive analysis of independent variables

Table 6 is about here

4.2 Regression Results

Before running the regression analysis, the Variance Inflation Factor (VIF) test was adopted to check the existence of multicollinearity between research variables. The assumption of multicollinearity is not violated.

In addition, to examine the correlations between variables, the Pearson coefficient was calculated. An acceptable level correlation of the Pearson coefficient is less than 0.8(-/+) (Gujarati & Porter, 2003). Table 7 presents the correlation between the variables included in this study. All the coefficients show relaxing values, and hence no need to delete any variable from the model.

Table 7 is about here

4.3 Regression Models and Methods Selection

Three main methods could be used for panel data analysis. These are pooled Ordinary Least Square (OLS), Fixed Effects (FE), and Random Effects (RE) models (Asteriou & Hall, 2015). To choose the fitting model, we have implemented two tests. First, to choose between OLS and FE/RE models, we have conducted the Breusch-Pagan Lagrange multiplier test. The results indicated that the null hypothesis was rejected, and there is a random effect in the model. Hence, the FE/RE models will be considered. Second, to choose between FE and RE models, the Hausman test was conducted to examine whether there is a correlation between the unique error component and independent variables. The results of the test indicated that the preferred model is the RE model.

4.4 Regression Results and Robust Regression

4.4.1 Regression Results

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5 The R/E Model was implemented in the current study as it is the most fitting model. Table 8
6 exhibits the R/E results showing the effect of company characteristics (firm size, profitability,
7 leverage, and type of industry) and corporate governance factors (board size, proportion of
8 independent members on board, presence of audit committee, and role duality) on the level of ICD
9 in Vietnamese firms' annual reports.
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19 As recorded in Table 8, the R/E model produces an R-square value of 44.25%, meaning that the
20 regression model fits 44.25% of the data. In other words, the R-square value shows that the
21 explanatory variables in the model can explain 44.25% of the changes in the level of ICD.
22 Moreover, the table shows the existence of a significant positive relationship between firm size
23 and ICD (coefficient 0.00594*) implying that hypothesis 1 is accepted. Similarly, hypothesis 2
24 was supported as we found a significant positive relationship between profitability and ICD
25 (coefficient 0.101**). Our results reported a non-significant relationship between leverage and
26 ICD (coefficient 0.00286), which implies that hypothesis 3 is rejected. Regarding hypothesis 4,
27 which proposed the existence of a positive relationship between industry type and ICD, the results
28 confirmed the positive effect of industry type on ICD (coefficient 0.0519***), thus hypothesis 4 is
29 accepted. Regarding the results related to corporate governance factors, the results did not indicate
30 a positive impact of board size and audit committee (coefficient -0.00185, 0.00355 respectively)
31 on ICD, hence, hypotheses 5 and 8 were rejected. Further, a significant positive relationship was
32 recorded between board composition and ICD (coefficient 0.0295*), which supports the
33 suggestion of hypothesis 6. Finally, the suggestion of hypothesis 7 that role duality is negatively
34 related to ICD was supported as the results showed the existence of a significant negative effect of
35 role duality on ICD (coefficient -0.0116**); accordingly, hypothesis 7 was accepted.
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50 *4.4.2 Robust Regression*
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53 To ensure the robustness of the test, the random effect model was tested for autocorrelation and
54 heteroskedasticity to ensure that the data meets these assumptions. Thus, the Wooldridge test and
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MLE test were used. The results from both tests indicated that there are autocorrelation and heteroskedastic in the data. Hence, we adopted the Cluster Robust standard error method, proposed by H. White (1980), to overcome the problem of heteroskedasticity and autocorrelation (Cameron & Miller, 2015). The results in Table 9 indicated that the coefficients of the explanatory variables are still the same, but the p -value of some variables has changed. The p -value of firm size and CEO duality has slightly decreased, while it increased for board composition; for leverage and the presence of an audit committee, they did not change.

Table 9 is about here

Furthermore, for robustness purposes, the results from the three models and the robust standard error model are shown in Table 10. It can be seen that apart from the F/E model, most of the independent variables have a significant effect on the dependent variable, including firm size, profitability, Industry type, board composition and CEO duality.

Table 10 is about here

5.0 Discussion and Conclusions

This research aims to assess the level of ICD and examine whether company characteristics and corporate governance structure affect the level of ICD in Vietnam. To achieve the research objectives, our sample consisted of the top 50 listed Vietnamese companies in HOSE. Although Vietnam is considered an emerging knowledge-based country with a rapid growth rate, our descriptive analysis revealed that the level of ICD in Vietnamese firms' annual reports is still relatively low. Meanwhile, the analysis shows that Vietnamese companies focus on relational capital followed by human capital, and finally structural capital. Our analysis indicates that the level of ICD has slightly increased for relational and human capital over the study period, whereas it decreased for structural capital. The most frequently disclosed IC items regarding human capital were the number of employees, employee education, employee work-related competencies, and employee motivations. For relational capital, the most disclosed items were customers, customer relationships, market presence, relationships with stakeholders, brands, company reputation, and

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3 business collaboration. The most commonly disclosed items related to structural capital for firms
4 were process, management philosophy, organization structure, R&D, quality management, and
5 financial dealings.
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10 In discussing the impact of firm characteristics on ICD, our findings indicate that firm size,
11 profitability, industry type, and board composition positively influence ICD, while CEO duality
12 has a negative effect. Notably, board size and the presence of an audit committee did not show
13 significant influence. The positive association between larger firms and higher levels of ICD
14 among Vietnamese listed companies aligns with theoretical frameworks such as signaling theory,
15 agency theory, and cost-benefit theory (Haniffa & Cooke, 2002).
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22 This result is particularly relevant in the context of Vietnam's economic context, characterized by
23 rapid growth and increasing globalization. Larger Vietnamese firms often have more sophisticated
24 internal management systems that facilitate better information disclosure and effective
25 management of intellectual capital (Chaminade & Roberts, 2003). Moreover, as Vietnam
26 continues to develop its market economy, larger firms typically possess more resources and
27 capabilities to engage in comprehensive reporting practices, enabling them to meet the
28 expectations of both local and international investors. The relatively lower costs associated with
29 documenting and disseminating information for larger firms (Li et al., 2008) further underscores
30 this trend. In the Vietnamese context, where transparency and accountability are increasingly
31 demanded by stakeholders, larger firms are better positioned to leverage their resources to enhance
32 ICD, thereby signaling their commitment to corporate governance and long-term value creation.
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43 Our analysis also revealed a significant positive association between profitability and the level of
44 ICD, a finding that is consistent with prior work (e.g., Vergauwen & Van Alem, 2005; Ferreira et
45 al., 2012; Madhani, 2016). This relationship aligns with signaling theory, which posits that
46 profitable firms are more inclined to disclose corporate information to signal their good
47 performance and effectively communicate with investors and stakeholders. Furthermore, agency
48 theory supports this by suggesting that managers of highly profitable firms are motivated to
49 enhance their positions and compensation by presenting and disclosing favorable corporate
50 information.
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5 Conversely, our results indicated no significant effect of leverage on ICD. This finding may be
6 attributed to the unique characteristics of the Vietnamese market, where firms often operate in a
7 close-knit environment with their creditors, including banks, lenders, and government agencies. In
8 this context, these stakeholders can easily access information about firms, reducing the need for
9 companies to voluntarily disclose corporate information, including that related to intellectual
10 capital, to satisfy external expectations. As a result, the dynamics of information flow and
11 stakeholder relationships in Vietnam may lead to a diminished emphasis on ICD in leveraged
12 firms, reflecting a more informal and interconnected approach to corporate governance.
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20 Regarding industry type, it was recorded that it has the highest significant association with the
21 level of ICD. Such result aligns with the results of Oliveras et al. (2008); Cordazzo and Vergauwen
22 (2012); and Ramadan and Majdalany (2013). In particular, companies from high-tech or
23 knowledge-intensive industries (e.g. Information technology, Services) disclosed more extensive
24 overall IC information in their annual reports than those from traditional industries (e.g.
25 agriculture, construction, manufacturing). This finding reflects the idea that companies operating
26 in sectors that are deeply influenced by intangible capital and knowledge-based resources would
27 inherently have more IC, resulting in disclosing more details on IC voluntarily. Furthermore, due
28 to the lack of accounting standards for reporting IC in companies' financial statements, as
29 discussed before, knowledge-intensive firms would desire to disclose their IC information in
30 annual reports to be appropriately valued by the markets.
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41 Our study found no significant relationship between corporate board size and the level of ICD,
42 which aligns with findings from other developing countries (e.g., Cheng & Courtenay, 2006;
43 Aryani & Prabowo, 2011). This may suggest that simply increasing the number of board members
44 does not necessarily enhance expertise or oversight within the firm. In the context of Vietnam, the
45 relationships and connections among board members and executive directors could hinder
46 effective monitoring of executive management. The informal networks and shared backgrounds
47 may lead to a level of complacency that prevents rigorous oversight, thereby impacting the quality
48 and extent of ICD.
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3 Furthermore, our results indicated that CEO duality is negatively associated with the level of ICD,
4 a finding consistent with previous research by Gul and Leung (2004) and Cerbioni and Parbonetti
5 (2007). The detrimental effect of CEO duality in the Vietnamese context may stem from the
6 consolidation of power in a single individual, which limits the board's ability to respond flexibly
7 to any issues of poor performance. This concentration of power could impair management's
8 governance functions, ultimately diminishing the company's commitment to transparent disclosure
9 practices. By separating the roles of chairman and CEO, organizations could enhance the board's
10 accountability and capacity for independent decision-making, fostering a more robust disclosure
11 culture and potentially improving ICD outcomes.
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20 Moreover, in line with the arguments of the agency theory, our results indicated that firms with a
21 high proportion of independent directors on board provide a more effective and positive
22 monitoring mechanism and better voluntary disclosure practices in general and ICD in particular.
23 Taking the context of Vietnamese listed firms into account, good composition of the board of
24 directors is an effective mechanism of monitoring that supports firms in enhancing their level of
25 voluntary ICD. This is because in order to reduce the concerns of losing reputation, lawsuits,
26 potential investment and market retention, independent non-executive directors in Vietnamese
27 firms tend to encourage management boards to make appropriate decisions that are aligned with
28 maximizing shareholders' wealth (Vu, 2012). These results are consistent with what was reported
29 by (Muttakin et al., 2015); Whiting & Birch, 2016). Lastly, the research failed to find any
30 significant association between the presence of an audit committee and the level of ICD. This
31 could be justified based on the idea that, unlike other developed countries, the audit committee in
32 Vietnamese firms' governance structure is often referred to as the control board or supervisory
33 board and the roles of such supervisory board are still mixed, unclear, and less responsible than as
34 they are in other developed countries. To conclude, our analysis revealed that larger profitable
35 firms tend to disclose more IC information in their annual report to communicate with shareholders
36 and investors their good performance. Firms that are knowledge-intensive and technology-based
37 disclose more IC information than companies that are operating in traditional sectors. Meanwhile,
38 the research failed to find a significant impact of board size and the presence of an audit committee
39 on ICD.
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3 Our results provide important implications for both theory and practice, particularly in light of the
4 combined effects of firm characteristics and corporate governance factors on ICD practices. The
5 observation that larger and highly profitable firms exhibit greater levels of ICD supports the
6 agency theory, suggesting that managers strive to justify their positions and compensation by
7 providing more information to stakeholders within the Vietnamese context. This finding
8 contributes to the understanding of agency dynamics in emerging markets. Moreover, the positive
9 relationship between board composition and ICD underscores the necessity of having independent
10 directors to mitigate agency costs and enhance the monitoring capabilities of boards. This aligns
11 with existing literature and demonstrates its relevance in the Vietnamese context, indicating that
12 governance structures significantly influence disclosure practices. Our findings also affirm the
13 applicability of signaling theory in the Vietnamese market. Firms that demonstrate good
14 performance tend to differentiate themselves by signaling high profitability to stakeholders, which
15 is evidenced by the positive relationship found between profitability and ICD. This highlights the
16 importance of strategic communication in enhancing firm reputation and stakeholder trust.
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29 Notably, our study reveals a low level of ICD among the sampled Vietnamese firms, suggesting
30 that many provide information that meets only the minimum statutory requirements. This
31 limitation may stem from a lack of comprehensive reporting frameworks and inadequate resources
32 for managing intellectual capital. Consequently, there is an urgent need for standardized guidelines
33 that facilitate uniform reporting and measurement across various industries in Vietnam.
34 Additionally, promoting a greater consensus among firms and researchers regarding the definitions
35 and terms related to intellectual capital is vital for enhancing understanding and awareness of its
36 significance.
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45 The significant effects of certain corporate governance variables indicate that active engagement
46 from boards and management teams is crucial for fostering rigorous disclosure practices, both
47 internally and externally. Regulatory bodies and policymakers in Vietnam can leverage our
48 findings to develop or refine guidelines that promote increased transparency in ICD, ultimately
49 improving the investment climate and attracting potential investors. Furthermore, our results
50 suggest that companies can enhance their ICD practices by focusing on strengthening their
51 corporate governance structures. This includes increasing the number of independent board
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3 members and separating the roles of the CEO and board chair, which can facilitate better oversight
4 and foster robust disclosure practices. By implementing these changes, firms can improve investor
5 confidence and potentially achieve better financial performance.
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10 **6.0 Limitations and Future Research**

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13 The first limitation relates to the measurement of ICD; although the word count percentage method
14 is considered a useful method, it still has its limitations. Hence, future research might further
15 include the graphical and pictorial information as they were excluded from the word count method.
16 These types of information were excluded from the current research because coding those types
17 only shows the presence or absence of an item and measuring the level of ICD in a graph or picture
18 style is not the aim of this research. Second, the annual report is the only media that is used to
19 examine the practices of ICD in this study. Nevertheless, a move to other media, such as analyst's
20 reports, websites, and interim announcements is suggested for future research. Also, expanding
21 the period of examination is recommended to provide more insightful exploration and assist the
22 robustness of the research's results. Third, the research only included eight explanatory variables
23 of ICD, therefore, this could highlight a venue for future research to add more variables with
24 subcategory analysis and a larger sample size to increase the level of explanation of the models.
25 Finally, the findings of this study can be used by future studies to evaluate the differences in ICD
26 practice across countries or industries or to establish overtime changes in ICD practice.
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39 **References**

40
41
42
43 Abdelqader, M., Darwish, T. K., & Nimer, K. (2022). *Corporate governance and IFRS in the*
44 *Middle East: Compliance with international financial reporting standards*. Routledge.
45
46

47
48 Abdelqader, M., Nimer, K., & Darwish, T. K. (2021). IFRS compliance in GCC countries: do
49 corporate governance mechanisms make a difference?. *International Journal of Disclosure and*
50 *Governance*, 18(4), 411-425.
51
52
53
54
55
56
57
58
59
60

1
2
3 Abeysekera, I. (2008). Intellectual capital disclosure trends: Singapore and Sri Lanka. *Journal of*
4 *Intellectual Capital*, 9(4), 723-737.

5
6
7
8 Abhayawansa, S., & Guthrie, J. (2016). Does intellectual capital disclosure in analysts' reports
9 vary by firm characteristics? *Advances in Accounting*, 35, 26-38.

10
11
12
13 Ahmed, S. S., Guozhu, J., & Khan, M. M. (2024). Examining intellectual capital and knowledge
14 absorptive capacity for high innovative performance. *Knowledge and Process*
15 *Management*, 31(2), 128-139.

16
17
18
19
20 Akkas, E., & Asutay, M. (2023). The impact of intellectual capital formation and knowledge
21 economy on banking performance: a case study of GCC's conventional and Islamic banks. *Journal*
22 *of Financial Reporting and Accounting*, 21(5), 1149-1170.

23
24
25
26
27 Ali, H., Adegbite, E., & Nguyen, T. H. (2022, April). Ownership structure and political spending
28 disclosure. *Accounting Forum*, 46(2), 160-190.

29
30
31
32 Ali, S., Naseem, M. A., Jiang, J., Rehman, R. U., Malik, F., & Ahmad, M. I. (2022). "How" and
33 "When" CEO duality matter? Case of a developing economy. *Sage Open*, 12(3), 1-15.

34
35
36
37 Aljifri, K., & Hussainey, K. (2007). The determinants of forward-looking information in annual
38 reports of UAE companies. *Managerial Auditing Journal*, 22(9), 881-894.

39
40
41
42 Aljuboori, Z. M., Singh, H., Haddad, H., Al-Ramahi, N. M., & Ali, M. A. (2021). Intellectual
43 capital and firm performance correlation: the mediation role of innovation capability in Malaysian
44 manufacturing SMEs perspective. *Sustainability*, 14(1), 154.

45
46
47
48
49 Al-Shammari, B., & Al-Sultan, W. (2010). Corporate governance and voluntary disclosure in
50 Kuwait. *International Journal of Disclosure and Governance*, 7(3), 262-280.

1
2
3 Alshhadat, M. Q. A. (2018). *The Effect of Corporate Governance on the Intellectual Capital*
4 *Disclosure: Evidence from Jordan*. (Doctoral dissertation, University of Reading).

6
7
8 Aly, D., Abdelqader, M., Darwish, T. K., & Scott, K. (2023). The impact of healthcare board
9 characteristics on NHS trust performance. *Public Money & Management*, 43(6), 594-601.

11
12
13 Aly, D., Abdelqader, M., Darwish, T. K., Hasan, A., & Toporkiewicz, A. (2023). How
14 organizational board compositions lead to a higher job satisfaction: an empirical analysis of US
15 and UK companies. *International Journal of Disclosure and Governance*, 1-13.

17
18
19
20 Aly, D., Abdelqader, M., Darwish, T. K., Toporkiewicz, A., & Radwan, A. (2024). Board
21 characteristics and sustainability in higher education institutions: The case of the United
22 Kingdom. *Higher Education Quarterly*, <https://doi.org/10.1111/hequ.12496>.

23
24
25
26 Amendola, C., Gennaro, A., Labella, S., Vito, P., & Savastano, M. (2023). The evolution of
27 intellectual capital disclosure driven by European regulatory change: evidence from the Italian
28 stock market. *Journal of Intellectual Capital*, 24(5), 1136-1163.

29
30
31 Archambault, J. J., & Archambault, M. E. (2003). A multinational test of determinants of corporate
32 disclosure. *The International Journal of Accounting*, 38(2), 173-194.

33
34
35
36
37
38
39 Aryani, Y. A., & Prabowo, A. (2011). The effects of corporate governance on the intellectual capital
40 disclosure: An empirical study from banking sector in Indonesia. *World Review of Business*
41 *Research*, 1(4), 66-83.

42
43
44
45
46 Asteriou, D., & Hall, S. G. (2015). *Applied econometrics: Macmillan International Higher*
47 *Education*. London: International Higher Education

48
49
50
51 Beattie, V., McInnes, B., & Fearnley, S. (2004). A methodology for analysing and evaluating
52 narratives in annual reports: a comprehensive descriptive profile and metrics for disclosure quality
53 attributes. *Paper presented at the Accounting Forum*, 28(3), 205-236.

1
2
3
4
5 Birjandi, H., Hakemi, B., & Sadeghi, M. M. M. (2015). The study effect agency theory and
6 signaling theory on the level of voluntary disclosure of listed companies in Tehran Stock
7 Exchange. *Research Journal of Finance and Accounting*, 6(1), 174-185.
8
9

10
11 Bontis, N. (2003). Intellectual capital disclosure in Canadian corporations. *Journal of Human
12 Resource Costing & Accounting*, 7(1), 9-20.
13
14

15
16
17 Boujelbene, M. A., & Affes, H. (2013). The impact of intellectual capital disclosure on cost of
18 equity capital: A case of French firms. *Journal of Economics Finance and Administrative Science*,
19 18(34), 45-53.
20
21

22
23
24 Bozzolan, S., Favotto, F., & Ricceri, F. (2003). Italian annual intellectual capital disclosure: an
25 empirical analysis. *Journal of Intellectual Capital*, 4(4), 543-558.
26
27

28
29 Bozzolan, S., O'Regan, P., & Ricceri, F. (2006). Intellectual capital disclosure (ICD) A comparison
30 of Italy and the UK. *Journal of Human Resource Costing & Accounting*, 10(2), 92-113.
31
32

33
34 Brügggen, A., Vergauwen, P., & Dao, M. (2009). Determinants of intellectual capital disclosure:
35 evidence from Australia. *Management Decision*, 47(2), 233-245.
36
37

38
39
40
41 Bukh, P. N., Nielsen, C., Gormsen, P., & Mouritsen, J. (2005). Disclosure of information on
42 intellectual capital in Danish IPO prospectuses. *Accounting, Auditing & Accountability Journal*,
43 18(6), 713-732.
44
45

46
47
48 Cameron, A. C., & Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal
49 of Human Resources*, 50(2), 317-372.
50
51

1
2
3 Campbell, D., & Rahman, M. R. A. (2010). A longitudinal examination of intellectual capital
4 reporting in Marks & Spencer annual reports, 1978–2008. *The British Accounting Review*, 42(1),
5 56-70.
6
7

8
9
10 Cerbioni, F., & Parbonetti, A. (2007). Exploring the effects of corporate governance on intellectual
11 capital disclosure: an analysis of European biotechnology companies. *European Accounting*
12 *Review*, 16(4), 791-826.
13
14

15
16
17 Chaminade, C., & Roberts, H. (2003). What it means is what it does: a comparative analysis of
18 implementing intellectual capital in Norway and Spain. *European Accounting Review*, 12(4), 733-
19 751.
20
21

22
23
24 Chandraratne, K. A. D. P. M., Pathirawasam, C., & Mohamed, M. S. (2021). Board characteristics
25 and intellectual capital disclosures: evidence from Sri Lanka. *South Asian Journal of*
26 *Finance*, 1(2), 92-108.
27
28

29
30
31 Cheng, E. C., & Courtenay, S. M. (2006). Board composition, regulatory regime and voluntary
32 disclosure. *The International Journal of Accounting*, 41(3), 262-289.
33
34

35
36 Cheng, S. (2008). Board size and the variability of corporate performance. *Journal of Financial*
37 *Economics*, 87(1), 157–176.
38
39

40
41 Cordazzo, M., & Vergauwen, P. G. (2012). Intellectual capital disclosure in the UK biotechnology
42 IPO prospectuses. *Journal of Human Resource Costing & Accounting*, 16(1), 4-19.
43
44

45
46 De Silva, T.-A., Stratford, M., & Clark, M. (2014). Intellectual capital reporting: a longitudinal
47 study of New Zealand companies. *Journal of Intellectual Capital*, 15(1), 157-172.
48
49

50
51 Dutta, S., Lanvin, B., & Wunsch-Vincent, S. (Eds.). (2018). The global innovation index 2018:
52 Energizing the world with innovation. *WIPO*.
53
54
55
56
57
58
59
60

1
2
3 Edvinsson, L., & Malone, M. S. (1997). *Intellectual capital: The proven way to establish your*
4 *company's real value by finding its hidden brain power*. London: Piatkus.

5
6
7
8 Erik Sveiby, K. (1997). The intangible assets monitor. *Journal of Human Resource Costing &*
9 *Accounting*, 2(1), 73-97.

10
11
12
13 Fama, E. F., & Miller, M. H. (1972). *The theory of finance*. Holt Rinehart & Winston.

14
15
16
17 Ferreira, A. L., Branco, M. C., & Moreira, J. A. (2012). Factors influencing intellectual capital
18 disclosure by Portuguese companies. *International Journal of Accounting and Financial*
19 *Reporting*, 2(2), 278.

20
21
22
23 García-Meca, E., Parra, I., Larrán, M., & Martínez, I. (2005). The explanatory factors of
24 intellectual capital disclosure to financial analysts. *European Accounting Review*, 14(1), 63-94.

25
26
27
28 Gujarati, D., & Porter, D. (2003). Multicollinearity: What happens if the regressors are correlated.
29 *Basic econometrics*, 363.

30
31
32
33 Gul, F. A., & Leung, S. (2004). Board leadership, outside directors' expertise and voluntary
34 corporate disclosures. *Journal of Accounting and public Policy*, 23(5), 351-379.

35
36
37
38 Guthrie, J., Petty, R., & Ricceri, F. (2006). The voluntary reporting of intellectual capital. *Journal*
39 *of Intellectual Capital*, 7(2), 254-271

40
41
42
43 Haniffa, R. M., & Cooke, T. E. (2002). Culture, corporate governance and disclosure in Malaysian
44 corporations. *Abacus*, 38(3), 317-349.

45
46
47
48 Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital
49 markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*,
50 31(1-3), 405-440.

1
2
3 Hieu, P. D., & Lan, D. T. H. (2015). Factors influencing the voluntary disclosure of Vietnamese
4 listed companies. *Journal of Modern Accounting and Auditing*, 11(12), 656-676.

5
6
7
8 Ijaz, M., Zarrar, A., & Naz, F. (2024). Intellectual capital efficiency: the missing piece to your
9 corporate governance and profitability puzzle. *International Journal of Law and Management*,
10 66(3), 393-415.

11
12
13
14
15 Institute, B. F. (2017). Global Intangible Finance Tracker 2017, An annual review of the world's
16 intangible value (pp. 39).

17
18
19
20 Ismail, T. H. (2011). Intellectual capital reporting in knowledge economy of Egypt. *International*
21 *Journal of Critical Accounting*, 3(2-3), 293-317.

22
23
24
25 Jardon, C. M., & Martinez-Cobas, X. (2021). Measuring intellectual capital with financial
26 data. *PloS one*, 16(5), e0249989.

27
28
29
30
31 Jensen, M., & Meckling, W. (1976). Theory of the firm: Management behavior, agency costs and
32 capital structure. *Journal of Financial Economics*, 3(4), 305-360.

33
34
35
36 John, K., & Senbet, L. W. (1998). Corporate governance and board effectiveness. *Journal of*
37 *Banking & Finance*, 22(4), 371-403.

38
39
40
41 Kang, H. H., & Gray, S. J. (2011). Reporting intangible assets: Voluntary disclosure practices of
42 top emerging market companies. *The International Journal of Accounting*, 46(4), 402-423.

43
44
45
46 Khlif, H., Samaha, K., & Amara, I. (2021). Internal control quality and voluntary disclosure: does
47 CEO duality matter?. *Journal of Applied Accounting Research*, 22(2), 286-306.

48
49
50
51 Kothari, S. P., Li, X., & Short, J. E. (2009). The effect of disclosures by management, analysts,
52 and business press on cost of capital, return volatility, and analyst forecasts: A study using content
53 analysis. *The Accounting Review*, 84(5), 1639-1670.

54

55

56

57

58

59

60

1
2
3
4
5 Koufopoulos, D. N., Gkliatis, I. P., Athanasiadis, K., & Fygkioris, M. (2020). The importance of
6 board size. *Available at SSRN 3788909*,

7
8
9
10 Kucera, M., & Dvorakova, D. (2023). Analysis of determinants influencing the level of intellectual
11 capital disclosure: The case of FTSE 100 entities. *Intangible Capital*, 19(2), 296-315.

12
13
14
15 Kweh, Q. L., Ting, I. W. K., Lu, W. M., & Le, H. T. M. (2022). Nonlinearity in the relationship
16 between intellectual capital and corporate performance: Evidence from Vietnamese listed
17 companies. *Journal of Intellectual Capital*, 23(6), 1246-1275.

18
19
20
21
22 Lev, B., Cañibano, L., & Marr, B. (2005). An accounting perspective on intellectual capital.
23 *Perspectives on intellectual capital*, 42-55.

24
25
26
27 Li, J. (2010). *An investigation of intellectual capital disclosure in annual reports of UK firms.*
28 *Practices and determinants*. Doctoral dissertation, University of Bradford.

29
30
31
32 Li, J., Mangena, M., & Pike, R. (2012). The effect of audit committee characteristics on intellectual
33 capital disclosure. *The British Accounting Review*, 44(2), 98-110.

34
35
36
37 Li, J., Pike, R., & Haniffa, R. (2008). Intellectual capital disclosure and corporate governance
38 structure in UK firms. *Accounting and Business Research*, 38(2), 137-159.

39
40
41
42 Maaloul, A., & Zeghal, D. (2015). Financial statement informativeness and intellectual capital
43 disclosure: An empirical analysis. *Journal of Financial Reporting and Accounting*, 13(1), 66-90.

44
45
46
47
48 Madhani, P. M. (2016). Corporate governance and disclosure practices of firms: the impact of
49 nature and types of intellectual capital. *The IUP Journal of Corporate Governance*, 15(3), 7-35.

50
51 Mehrotra, V., Malhotra, A. K., & Pant, R. (2018). Intellectual Capital Disclosure by the Indian
52 Corporate Sector. *Global Business Review*, 19(2), 376-392.

1
2
3 Milne, M. J., & Adler, R. W. (1999). Exploring the reliability of social and environmental
4 disclosures content analysis. *Accounting, Auditing & Accountability Journal*, 12(2), 237-256.

6
7
8 Mubarik, S., Naghavi, N., & Mubarik, M. F. (2019). Governance-led intellectual capital
9 disclosure: Empirical evidence from Pakistan. *Humanities and Social Sciences Letters*, 7(3), 141-
10 155.

11
12
13
14
15 Mujiani, S., Wilestari, M., & Putri, M. E. (2020). Does corporate governance structure and
16 leverage affect intellectual capital disclosure?. *Equity*, 23(2), 223-238.

17
18
19
20 Muttakin, M. B., Khan, A., & Belal, A. R. (2015). Intellectual capital disclosures and corporate
21 governance: An empirical examination. *Advances in Accounting*, 31(2), 219-227.

22
23
24
25
26 Nguyen, N. T. (2023). Intellectual capital and financial performance of industrial firms in
27 emerging countries: Empirical evidence from Vietnam. *Global Business & Finance Review*, 28(2),
28 107-122.

29
30
31
32
33 Nguyen, N. T. (2023). The impact of intellectual capital on service firm financial performance in
34 emerging countries: The case of Vietnam. *Sustainability*, 15(9), 7332.

35
36
37
38
39 Nguyen, T. H., Trinh, V. Q., & Chen, W. (2024, February). Ownership structure and climate-
40 related corporate reporting. *Accounting Forum*, 1-33.
41 <https://doi.org/10.1080/01559982.2024.2301850>.

42
43
44
45
46
47
48
49
50 Nguyen, T. H., Yang, Y., Nguyen, T. H. T., & Nguyen, L. T. H. (2023). Climate-related corporate
reporting and cost of equity capital. *Journal of Financial Reporting and Accounting*.
<https://doi.org/10.1108/JFRA-02-2023-0078>.

51
52
53
54
55
56
57
58
59
60 Nimer, K., Kuzey, C., & Uyar, A. (2024). Hospitality and tourism firms' board characteristics,
board policies and tourism sector performance: what is the nexus?. *International Journal of
Productivity and Performance Management*, 73(2), 523-562.

1
2
3
4
5 Nimer, K., Qader, M. A., & Darwish, T. K. (2024). Firm characteristics and the level of IFRS
6 compliance and disclosure in GCC countries. *International Journal of Business Governance and*
7 *Ethics*, 18(2), 215-240.
8
9

10
11 Nurunnabi, M., Hossain, M., & Hossain, M. (2011). Intellectual capital reporting in a South Asian
12 country: evidence from Bangladesh. *Journal of Human Resource Costing & Accounting*, 15(3),
13 196-233.
14
15
16

17
18 Nuzula, N. F., Rahayu, S. M., & Wulandari, A. M. (2023). What factors lead companies to release
19 intellectual capital disclosure? Evidence from Indonesian manufacturers. *Cogent Business &*
20 *Management*, 10(2), 2234149.
21
22
23
24

25 OECD (2015). Organization for Economic Cooperation and Development .OECD. Available:
26 <http://www.oecd.org/mena/competitiveness/>.
27
28
29

30 OECD. (1999). "Guidelines and instructions for OECD symposium", International Symposium
31 Measuring and Reporting Intellectual Capital: Experiences, Issues, and Prospects.
32
33
34

35 Oliveras, E., Gowthorpe, C., Kasperskaya, Y., & Perramon, J. (2008). Reporting intellectual
36 capital in Spain. *Corporate Communications: An International Journal*, 13(2), 168-181.
37
38
39

40 Olsson, B. (2001). Annual reporting practices: information about human resources in corporate
41 annual reports in major Swedish companies. *Journal of Human Resource Costing and Accounting*,
42 6(1), 39-52.
43
44
45
46

47 Palgunadi, N. M. D. K. R., Yuniarta, G. A., Nyoman, D., & Werastuti, S. (2024). The influence of
48 intellectual capital and green accounting on financial performance with business strategy as a
49 moderation. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 8(2), 266-
50 272.
51
52
53
54
55
56
57
58
59
60

1
2
3 Paoloni, P., Modaffari, G., Ricci, F., & Della Corte, G. (2023). Intellectual capital between
4 measurement and reporting: a structured literature review. *Journal of Intellectual Capital*, 24(1),
5 115-176.
6
7

8
9
10 Petty, R., & Guthrie, J. (2000). Intellectual capital literature review: measurement, reporting and
11 management. *Journal of Intellectual capital*, 1(2), 155-176.
12
13

14
15 Petty, R., Ricceri, F., & Guthrie, J. (2008). Intellectual capital: a user's perspective. *Management*
16 *Research News*, 31(6), 434-447.
17
18

19
20 Rahman, C. A., & Ridhuan, M. (2013). *A longitudinal and cross-sectional examination of*
21 *intellectual capital information disclosure in six large FTSE 100 UK companies*, Doctoral
22 dissertation, Newcastle University.
23
24

25
26
27 Ramadan, M., & Majdalany, G. (2013, April). The impact of corporate governance indicators on
28 intellectual capital disclosure: An empirical analysis from the banking sector in the United Arab
29 Emirates. *In Proceedings of the International Conference on Intellectual Capital, Knowledge*
30 *Management & Organizational Learning (pp. 351-361)*.
31
32
33

34
35
36 Rieg, R., & Vanini, U. (2023). Value relevance of voluntary intellectual capital disclosure: a meta-
37 analysis. *Review of Managerial Science*, 17(7), 2587-2631.
38
39

40
41 Rodrigues, L. L., Tejedo-Romero, F., & Craig, R. (2017). Corporate governance and intellectual
42 capital reporting in a period of financial crisis: Evidence from Portugal. *International Journal of*
43 *Disclosure and Governance*, 14, 1-29.
44
45

46
47
48 Roos, G., & Roos, J. (1997). Measuring your company's intellectual performance. *Long range*
49 *planning*, 30(3), 413-426.
50
51
52
53
54
55
56
57
58
59
60

1
2
3 Rouf, A. (2011). The financial performance (profitability) and corporate governance disclosure in
4 the annual reports of listed companies of Bangladesh. *Journal of Economics and Business*
5 *Research*, 17(2), 103-117.
6
7

8
9
10 Salehi, M., Arianpoor, A., & Dalwai, T. (2020). Corporate governance and cost of equity:
11 Evidence from Tehran stock exchange. *Journal of Asian Finance, Economics and Business*, 7(7),
12 149-158.
13
14

15
16
17 Salehi, M., Rajaei, R., Khansalar, E., & Edalati Shakib, S. (2024). Intellectual capital, social
18 capital components and internal control weaknesses: evidence from Iran's business
19 environment. *Journal of Islamic Accounting and Business Research*, 15(5), 838-875.
20
21
22

23
24 Senani, K. G. P., Ajward, R., & Kumari, J. S. (2022). Determinants and consequences of integrated
25 reporting disclosures of non-financial listed firms in an emerging economy. *Journal of Financial*
26 *Reporting and Accounting*. ahead-of-print No. ahead-of-print. [https://doi.org/10.1108/JFRA-03-](https://doi.org/10.1108/JFRA-03-2022-0083)
27 [2022-0083](https://doi.org/10.1108/JFRA-03-2022-0083)
28
29
30

31
32 Singhvi, S. S., & Desai, H. B. (1971). An empirical analysis of the quality of corporate financial
33 disclosure. *The Accounting Review*, 46(1), 129-138.
34
35
36

37
38 Smith, M., & Taffler, R. J. (2000). The chairman's statement-A content analysis of discretionary
39 narrative disclosures. *Accounting, Auditing & Accountability Journal*, 13(5), 624-647.
40
41
42

43
44 Soon Yau, F., Sin Chun, L., & Balaraman, R. (2009). Intellectual capital reporting and corporate
45 characteristics of public-listed companies in Malaysia. *Journal of Financial Reporting and*
46 *Accounting*, 7(1), 17-35.
47
48

49
50 Sudibyoy, A. A., & Basuki, B. (2017). Intellectual capital disclosure determinants and its effects on
51 the market capitalization: evidence from Indonesian listed companies. *In SHS Web of Conferences*
52 *(Vol. 34, p. 07001)*.
53
54
55
56
57
58
59
60

1
2
3 Taliyang, S. M., & Jusop, M. (2011). Intellectual capital disclosure and corporate governance
4 structure: evidence in Malaysia. *International Journal of Business and Management*, 6(12), 109.

5
6
7
8 Tayles, M., Pike, R. H., & Sofian, S. (2007). Intellectual capital, management accounting practices
9 and corporate performance. *Accounting, Auditing & Accountability Journal*, 20(4), 522-548.

10
11
12
13 Tran, M. D., & Ha, H. H. (2023). Corporate governance disclosure and annual reports quality: An
14 investigation in Vietnam context. *Cogent Economics & Finance*, 11(1).
15 <https://doi.org/10.1080/23322039.2023.2173125>.

16
17
18
19
20 Tran, N. P., Dinh, C. T. H., Hoang, H. T. T., & Vo, D. H. (2022). Intellectual capital and firm
21 performance in Vietnam: The moderating role of corporate social
22 responsibility. *Sustainability*, 14(19), 12763.

23
24
25
26
27 Turley, S., & Zaman, M. (2007). Audit committee effectiveness: informal processes and
28 behavioural effects. *Accounting, Auditing & Accountability Journal*, 20(5), 765-788.

29
30
31
32 Vandemaele, S., Vergauwen, P., & Smits, A. (2005). Intellectual capital disclosure in The
33 Netherlands, Sweden and the UK. *Journal of Intellectual Capital*, 6(3), 417-426.

34
35
36
37
38
39 Vergauwen, P. G., & Van Alem, F. J. (2005). Annual report IC disclosures in the Netherlands,
40 France and Germany. *Journal of Intellectual Capital*, 6(1), 89-104.

41
42
43
44 Vitolla, F., Raimo, N., Marrone, A., & Rubino, M. (2020). The role of board of directors in
45 intellectual capital disclosure after the advent of integrated reporting. *Corporate Social
46 Responsibility and Environmental Management*, 27(5), 2188-2200.

47
48
49
50
51 Vu, K. B. A. H. (2012). *Determinants of voluntary disclosure for Vietnamese listed firms*. Doctoral
52 dissertation, Curtin University.

53
54
55
56
57
58
59
60

1
2
3 Wallace, R. O., Naser, K., & Mora, A. (1994). The relationship between the comprehensiveness
4 of corporate annual reports and firm characteristics in Spain. *Accounting and Business Research*,
5 25(97), 41-53.
6
7

8
9
10 Warden, C. (2003). Managing and reporting intellectual capital: new strategic challenges for
11 HEROs. *IP Helpdesk Bulletin*, 8(2), 298-319.
12
13

14
15 White, G., Lee, A., & Tower, G. (2007). Drivers of voluntary intellectual capital disclosure in
16 listed biotechnology companies. *Journal of Intellectual Capital*, 8(3), 517-537.
17
18

19
20 White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for
21 heteroskedasticity. *Econometrica: Journal of the Econometric Society*, 817-838.
22
23

24
25 Whiting, R. H., & Birch, G. Y. (2016). Corporate governance and intellectual capital
26 disclosure. *Corporate Ownership and Control*, 13(2), 250-261.
27
28

29
30 Williams, S. M. (2001). Is intellectual capital performance and disclosure practices related?
31 *Journal of Intellectual Capital*, 2(3), 192-203.
32
33

34
35
36 Wong, M., & Gardner, C. (2005, July). Intellectual capital disclosure: New Zealand evidence. *In*
37 *Conference paper presented at the AFFANZ 2005 conference: Melbourne, Australia*.
38
39

40
41 Xie, B., Davidson III, W. N., & DaDalt, P. J. (2003). Earnings management and corporate
42 governance: the role of the board and the audit committee. *Journal of Corporate Finance*, 9(3),
43 295-316.
44
45
46
47
48
49
50
51
52
53
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Table 1 Sample distribution by industry type

Sector Group	Companies	Percentage
Traditional industries	29	58%
High tech industries	21	42%
Total	50	100%

Table 2 Checklist of IC information items

Human capital	Relational capital	Structural capital
1. Number of employees	1. Customers	1. Intellectual property
2. Employee age	2. Market presence	2. Process
3. Employee diversity	3. Customer relationships	3. Management philosophy
4. Employee equality	4. Customer acquisition	4. Corporate culture
5. Employee relationship	5. Customer retention	5. Organization flexibility
6. Employee education	6. Customer training & education	6. Organization structure
7. Skills/know-how	7. Customer involvement	7. Organization learning
8. Employee work-related competences	8. Company image/reputation	8. Research & development
9. Employee work-related knowledge	9. Company awards	9. Innovation
10. Employee attitudes/ behaviour	10. Public relations	10. Technology
11. Employee commitments	11. Diffusion & networking	11. Financial dealings
12. Employee motivation	12. Brands	12. Customer support function
13. Employee productivity	13. Distribution channels	13. Knowledge-based infrastructure
14. Employee training	14. Relationship with suppliers	14. Quality management and improvement
15. Vocational qualifications	15. Business collaboration	15. Accreditation (certificate)
16. Employee development	16. Business agreements	16. Overall infrastructure/capability
17. Employee flexibility	17. Favourite contract	17. Networking
18. Entrepreneurial spirit	18. Research collaboration	18. Distribution network
19. Employee capabilities	19. Marketing	
20. Employee teamwork	20. Relationship with stakeholders	
21. Employee involvement with community	21. Market leadership	
22. Other employee features		

Source: Adopted from Li (2010)

Table 3 Measurement of Independent Variables

Independent Variable	Measurement
Firm size	Company total assets of the financial year were reduced to the natural log
Profitability	Company Return/Total assets
Leverage	Total Debt/Owner's Equity
Industry type	A Dummy variable with a value of 1 if the company is classified into knowledge-intensive industry, and 0 for a traditional industry.
Board size	Number of members on Board of directors.
Board composition	Number of independent non-executive directors on board divided by the total number of directors on board.
Role duality	Dummy variable, 1 if chairman and CEO are the same person, 0 if not.
Audit committee presence	Dummy variable, 1 if there is an audit committee in a firm, otherwise 0.

Table 4 Descriptive Statistics for IC Disclosure percentage out of total Annual report word count

	Obs	Mean	Median	Std.Dev	Min	Max
IC%	250	0.1743	0.1620	0.0526	0.0720	0.3880
HC%	250	0.0574	0.0624	0.0205	0.0230	0.1450
RC%	250	0.0651	0.0682	0.0259	0.0235	0.1635
SC%	250	0.0518	0.0527	0.0241	0.0110	0.1387

Table 5 Summary of ICD level over the five-year period.

	2014	2015	2016	2017	2018	Mean
IC%	15.31%	17.23%	17.36%	18.38%	19.17%	17.43%
HC%	31.66%	30.46%	32.60%	34.98%	35.51%	33.04%
RC%	37.36%	37.82%	36.61%	37.27%	37.10%	37.23%
SC%	30.97%	31.73%	30.79%	27.75%	27.39%	29.73%
Total IC%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Tabel 6 Descriptive statistics for independent variables

	Obs	Mean	Std.Dev	Min	Max
FSIZE	250	16.61	1.57	14.33	20.99
ROA	250	0.07	0.06	-0.04	0.23
LEV	250	2.08	1.78	0.13	9.49
BSIZE	250	7.14	1.86	4	13
INED	250	0.44	0.19	0	0.88
INDTYPE	250	0.42	0.49	0	1
DUAL	250	0.33	0.47	0	1
AUDCOM	250	0.56	0.49	0	1

Table 7 Correlation matrix

	ICWC	FSIZE	PROF	LEV	INDTYPE	BSIZE	INED	DUAL	AUDCOM
ICWC	1.000								
FSIZE	0.408**	1.000							
PROF	-0.001	-0.326*	1.000						
LEV	0.309*	0.645**	-0.477**	1.000					
INDTYPE	0.589**	0.459**	-0.282	0.436**	1.000				
BSIZE	0.109	0.338*	-0.104	0.299*	0.239	1.000			
INED	0.230	0.056	0.203	-0.028	-0.029	0.205	1.000		
DUAL	-0.158	-0.261*	0.033	-0.139	-0.238	-0.304*	-0.145	1.000	
AUDCOM	0.314*	0.027	0.068	0.0105	0.436**	0.001	0.115	-0.008	1.000

Notes: **Correlation is significant at the 0.01 level (two-tailed)

Table 8 Regression results by running RE model

Variables	Random Effects	
	Coefficient	P-value
FSIZE	0.00594	0.0625 *
ROA	0.101	0.0192 **
LEV	0.00286	0.1036
INDTYPE	0.0519	0 ***
BSIZE	-0.00185	0.2551
INED	0.0295	0.0555 *
DUAL	-0.0116	0.0228 **
AUDCOM	0.00355	0.6469
N	250	
R-sq	44.25%	

(***), (**) and (*) indicates the significant levels at 1%, 5% and 10%.

Table 9 Robust regression with Random Effects model

Variables	Random Effects			Robust regression		
	Coefficient	Std. Err.	P-value	Coefficient	Robust Std. Err.	P-value
FSIZE	0.00594	0.00319	0.0625 *	0.00594	0.00302	0.0490 **
ROA	0.101	0.04321	0.0192 **	0.101	0.04757	0.0335 **
LEV	0.00286	0.00176	0.1036	0.00286	0.00254	0.2606
INDTYPE	0.0519	0.01124	0 ***	0.0519	0.01225	0 ***
BSIZE	-0.00185	0.00163	0.2551	-0.00185	0.00169	0.2748
INED	0.0295	0.01539	0.0555 *	0.0295	0.01698	0.0828 *
DUAL	-0.0116	0.00510	0.0228 **	-0.0116	0.00459	0.0115**
AUDCOM	0.00355	0.00775	0.6469	0.00355	0.01013	0.7263
N	250			250		
R-sq	44.25%			44.25%		

Table 10 Robust Panel Regression Results

Variables	Pooled OLS		Fixed Effects		Random Effects		Robust regression	
	Coef.	P-value	Coef.	P-value	Coef.	P-value	Coef.	P-value
FSIZE	0.00738	0.0009***	0.00728	0.1474	0.00594	0.0625 *	0.00594	0.0490 **
ROA	0.145	0.0009***	0.0719	0.1376	0.101	0.0192 **	0.101	0.0335 **
LEV	0.00196	0.3250	0.00292	0.1241	0.00286	0.1036	0.00286	0.2606
INDTYPE	0.0562	0***	0	[.] [†]	0.0519	0 ***	0.0519	0 ***
BSIZE	-0.0034	0.0134***	-0.00044	0.8264	-0.00185	0.2551	-0.00185	0.2748
INED	0.0573	0***	0.0110	0.5554	0.0295	0.0555 *	0.0295	0.0828 *
DUAL	0.00220	0.6976	-0.015	0.0070***	-0.0116	0.0228 **	-0.0116	0.0115**
AUDCOM	0.00870	0.1145	-0.00675	0.5335	0.00355	0.6469	0.00355	0.7263
N	250		250		250		250	
R-sq	47.87%		8.98%		44.25%		44.25%	