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Company Size, Innovation And Industry Competition On Intellectual Capital Disclosure In Consumer Goods Companies In Indonesia

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ABSTRACT- Intellectual capital (IC) is a strategic asset that can create competitive advantage to the firm. Because intangible, intellectual capital is often not captured in conventional financial statements. This has given rise to the practice of Intellectual Capital Disclosure (ICD). In Indonesia, the disclosure of intellectual capital is still voluntary and there is no standard requirement for it in the Statements of Financial Accounting Standards (PSAK). The aim of this study is to analyze the effect of firm size on intellectual capital disclosure with innovation as a mediating variable and industry competition as a moderating variable. The research sample is companies in the consumer goods sector listed on the Indonesia Stock Exchange (IDX) in the period 2021-2023. The analysis method used is the Partial Least Squares Structural Equation Modeling (PLS-SEM). The results show that firm size does not influence innovation, while innovation has a positive and significant impact on the disclosure of intellectual capital. Industry competition also reduces the effect of innovation on the disclosure of intellectual capital. Finally, the results indicate that intellectual capital disclosure is directly affected by the firm size and industry competition.

KEYWORDS - Company Size; Innovation; Industry Competition; Intellectual Capital Disclosure; Consumer Goods Sector.

I. INTRODUCTION

Intellectual capital is composed of three components: human capital, structural capital and relational capital. It contributes to the generation of added value for a company through innovations and improvement of the efficiency of business processes. The challenge with implementing intellectual capital, however, is how to effectively measure and report it. Intellectual capital is intangible, meaning it does not show up on conventional financial statements.

Through non-financial reporting [1], [16] companies practice Intellectual Capital Disclosure (ICD) to communicate to stakeholders the potential and value of this intellectual capital. In Indonesia, disclosure is still voluntary and not specifically regulated in the Indonesian Financial Accounting Standards (PSAK). So, the disclosure is different between companies [39].

One of factors which influence the disclosure of intellectual capital is company size. Large companies have more resources to support such efforts [14]. However, this relationship is not always linear. Innovation is seen as an important variable that can mediate the relationship between firm size and ICD disclosure, indicating a firm's ability to manage and develop intellectual capital [12], [24]. Without innovation, the great potential of intellectual capital may not be sufficiently reflected in non-financial reports [27].

Moreover, the company's disclosure strategy is also greatly affected by the dynamics of industry competition as an external factor. Companies in highly competitive industries may be motivated to increase transparency and quality of ICD disclosures to differentiate themselves and build trust in the market. However, fierce competition may also have the opposite effect of lowering information disclosure, due to the risk of business strategy leak.

Based on the above explanation the research questions are:

- Does the size of the company affect the innovation of consumer goods companies listed on the Indonesia Stock Exchange (IDX) in the 2021-2023 period?
- Does innovation affect the intellectual capital disclosure of consumer goods companies listed on the Indonesia Stock Exchange (IDX) during 2021-2023?
- Does industry competition moderate the impact of innovation on intellectual capital disclosure of consumer goods companies listed on the Indonesia Stock Exchange (IDX) during 2021-2023?
- Does size directly affect the disclosure of intellectual capital in consumer goods companies listed on the Indonesia Stock Exchange (IDX) in 2021-2023?
- Does the degree of industry competition affect the disclosure of intellectual capital of consumer goods companies listed on the Indonesia Stock Exchange (IDX) in 2021-2023?

II. LITERATURE REVIEW

A. Theories of Legitimacy

Legitimacy theory argues that companies seek public approval and trust by engaging in activities that are consistent with societal values. In this context, the disclosure of intellectual capital (ICD) can be a way for

companies to demonstrate their responsibility, innovation and competitiveness to the public and other stakeholders [3].

B. Stakeholder Theory

Stakeholder theory says that a company has responsibilities to everyone with a stake in the business: employees, customers, investors and the community at large. In this sense, the intellectual capital disclosure (ICD) is a way to satisfy the information needs, to build trust and to demonstrate the value added and the responsibilities of the company toward its stakeholders [37].

C. Agency Theory

Agency theory is about the relationship between the owners of a company (principals) and the management of the company (agents). The relationship between the principals and agents can lead to differences in interests and information asymmetry. Thus, intellectual capital disclosure (ICD) is utilized to decrease information asymmetry, retain the confidence of shareholders, and add value to the company [37].

D. Resource Based View (RBV)

According to the Resource-Based View theory, a firm's competitive advantage stems from unique resources that are difficult to imitate, such as intellectual capital. Such advantage could be shown by a firm when it discloses its intellectual capital to external parties [5].

E. Theory of Strategic Revelation

The Strategic Disclosure theory suggests that companies strategically choose the information to disclose so that they can gain advantages and avoid risks. For the case of Intellectual Capital Disclosure (ICD), companies may limit the disclosure of their intellectual capital because they are afraid that their intellectual capital information may be exploited by competitors [10].

F. Size of Company

Company size indicates the information providing capability of a firm [35]. Larger companies generally have more resources and pressure from stakeholders to report information more transparently.

G. Innovation.

Innovation covers the research and development activities and the use of technology which allows companies to develop competitive advantages [36]. Innovative companies tend to have competitive advantages based on knowledge and ideas, which do not show up on conventional financial statements. Therefore, more innovative companies are more encouraged to disclose information related to intellectual capital disclosure to stakeholders which can be used as a part of transparency strategy, image building and strengthening competitiveness. Therefore, innovation has positive effect on the intellectual capital disclosure [6].

H. Competition Level in the Industry

The level of competition in the industry can compel companies to provide more transparency in their disclosures to earn the trust of investors and to distinguish themselves from their competitors [40]. Very high competition can make the company more innovative, efficient and transparent in disclosing the existing information including intellectual capital.

I. Disclosure of Intellectual Capital

Intellectual Capital disclosure is the disclosure of information about a company's intangible assets, namely human capital, structural capital and relational capital [16]. The disclosure is considered important because the disclosure of intellectual capital can be used to increase transparency and provide added value for stakeholders.

Table 1: Research Literature Synthesis

Researcher and Year	Research Focus	Research Gap
(Oktavia & Sofyani, 2021) [30]	ICD and corporate governance	Focus on governance aspects, without testing innovation and industrial competition
(Muzdalya et al., 2022) [29]	The influence of industry type and profitability on ICD	Does not include industrial competition variables as moderators or mediators of innovation
(Hermawan et al., 2020) [19]	The meaning of intellectual capital in organizations	Conceptual study, not yet empirically tested in commercial and consumer goods sector companies
(Bozzolan, S., Favotto, F., & Ricceri, 2003) [6]	ICD and transparency of innovative companies	Not widely adopted in Indonesia; needs to be tested in the context of innovation and competitive pressures in the market
(Healy & Palepu, 2001) [18]	Managers' motivations for voluntary disclosure	The theory has not been widely applied to ICD in the consumer goods and innovation sectors.
(Firdausi Nuzula et al., 2023) [13]	Internal factors driving ICD disclosure in Indonesian manufacturing companies	ICD disclosure is used as a means to demonstrate accountability and build public trust.
(Widiatmoko et al., 2020) [38]	The influence of corporate governance mechanisms on ICD and market capitalization	Good governance mechanisms encourage information transparency to reduce information asymmetry.

(Source**:** Data Processed by Researchers (2025)

III. RESEARCH HYPOTHESIS

A. How Company Size Affects Innovation

Size of the firm can be a factor in the ability of the firm to innovate. Large companies generally have more financial and human resources available, which makes them more able to pursue innovation. In the study of [32], it was observed that firm size can weaken the impact of continuous innovation on employment growth. The first research hypothesis is:

B. The size of a firm impacts' innovation

The Impact of Innovation on Intellectual Capital Disclosure Innovation can increase a company's competitiveness. The more innovative a company is, the more active it is in managing and disclosing its intellectual capital: knowledge, skills, processes and business relationships. [2] show that innovation capability is important in the use of intellectual capital to improve corporate performance. The second research hypothesis is formulated as follows:
H2: Innovation affects disclosure of intellectual capital.
The Impact of Innovation on Intellectual Capital Disclosure: The Moderating Role of Industry Competition

- **Innovation could be a factor to stimulate companies to develop and to disclose their intellectual capital**

The more competitive the environment a company operates in, the greater the incentive to disclose intellectual capital as a competitive advantage over rivals. Conversely, a low level of competition can reduce a company's motivation to innovate. The third research hypothesis states:
H3: The influence of innovation on intellectual capital disclosure is moderated by the level of industry competition.

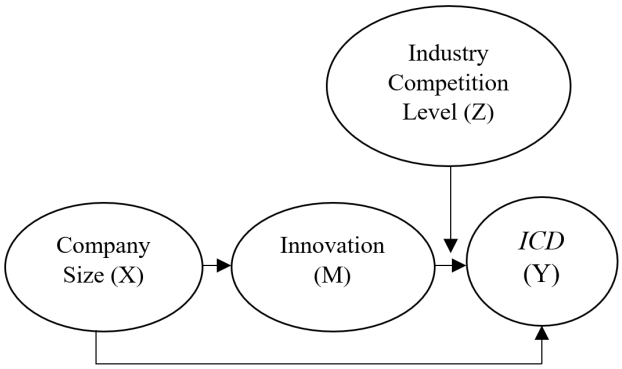
- **The size of the company has a direct influence on intellectual capital disclosure**

Large firms are expected to possess more resources and face more pressure from stakeholders, and hence they are likely to disclose more information to mitigate information asymmetry and to demonstrate their competitive advantage. The fourth research hypothesis is as follows:
H4: Company size has a direct effect on disclosure of intellectual capital

- **The Level of Industry Competition Impacts Intellectual Capital Disclosure**

In a competitive industry, companies will try to disclose their intellectual capital, by highlighting innovation and advantages over their competitors. The more competition there is, the more stakeholders demand transparency. The fifth research hypothesis states:
H5: Level of competition has direct effect on intellectual capital disclosure

IV. CONCEPTUAL FRAMEWORK



(Source: Data Processed by Researchers (2025))

Figure 1: Research Conceptual Framework

In Figure 1, Conceptual framework showing the relationship among variables in this study. It implies that the size of the firm can directly and indirectly affect intellectual capital disclosure (ICD) through innovation as the mediating variable. Meanwhile, industry competition is an independent variable that directly affects ICD and also a moderating variable that affects the relationship of innovation and ICD.

V. METHODOLOGY OF THE RESEARCH

A. Data Source and Type

Data used in this study were secondary data. The data sources for this study are obtained from annual reports, official company websites and the IDX website (www.idx.co.id).

B. Research Type

This is associative quantitative research that explains the relationship between variables statistically, including direct, indirect (mediation) and interaction (moderation) effects.

C. Population and Sample

The population of this research is consumer goods industry sectors listed on the Indonesia Stock Exchange (IDX) in 2021-2023. In this study, the sampling technique used was purposive sampling with criteria as listed in Table 2.

Table 2: Research Sample Criteria

No.	Information	Number of Companies
1	The consumer goods industry sector listed on the Indonesia Stock Exchange for three consecutive years (2021 – 2023)	63
2	Not delisted	1
3	No loss	1
	Total company	61

(Source: Data Processed by Researchers (2025))

According to Table 2, the population of this study is 63 companies in the consumer goods sector listed on the Indonesia Stock Exchange in the 2021-2023 period. After removing one company that was delisted and one company that suffered losses, the sample of this study is 61 companies.

Table 3: Conceptual Framework of the Research

Variable	Definisi Operasional	Indicators or Measurements	Relationships in Models
Company Size (X)	The size of a company reflects its resource capacity.	Ln Total Assets (Natural logarithm of total assets)	As an independent variable, its influence on Innovation (M) and ICD (Y) was tested.
Innovation (M)	The Company's efforts to develop new ideas, products, processes or technologies	R&D expenditure to assets/sales ratio	As a mediating variable, linking Company Size (X) with ICD (Y)
Industry Competition Level (Z)	External pressure experienced by a company from competitor in the same industry	Herfindal-Hirschman Index (HHI) – the higher the value, the lower the competition	As a moderating variable, it moderates the relationship between Innovation (M) AND icd (Y)
Intellectual Capital Disclosure (Y)	Level of disclosure of information regarding intellectual capital (human capital, structural capital, relational capital)	Boorking Index (25 item disclosure index)	As a dependent variable, it is influenced by Company Size (X), Innovation (M) and Level of Competition (Z)

(Source: Data Processed by Researchers (2025)

Table 3 presents the conceptual framework of the research, including operational definitions, measurement indicators and relationships among the variables utilized in the study. The study has four main variables which are Company Size, Innovation, Industry Competition Level and Intellectual Capital Disclosure.

D. Data Analysis Methods

The data analysis technique for this study was Equation Modeling (PLS-SEM) using SmartPLS software. The process goes as follows:

- Conceptual model building
- Collecting and processing secondary data
- Testing the measurement model (outer model) and verifying that the indicators of intellectual capital disclosure and innovation meet the following conditions:

a. Loading > 0,7

This shows the extent to which the indicator contributes to its construct. A loading value > 0.7 indicates that the indicator is strongly correlated with the construct and it is considered valid. The indicator is considered weak in explaining the construct and can be eliminated if the loading value is less than 0.7.

b. AVE > 0.5

It indicates the extent of variance of the indicator explained by the construct. AVE>0.5 indicates that the construct can explain more than 50% of the variance of the indicator. This is an indication of convergent validity. If the AVE is < 0.5, the construct explains its indicators to a lesser extent.

c. CR > 0.7

Assessing the reliability or internal consistency of indicators in a construct. The construct is considered reliable if CR value > 0.7. If the CR is low, the indicators are seen as not consistent in measuring the construct.

d. 4.3.3. Test the structural model (inner model) using bootstrapping (500-5000 subsamples).

Interpretation:

T-stat > 1.96 = significant

Significant p-value < 0.05

e. Mediation test

Test of Moderation (Degree of Competition in Industry)

f. Evaluating the model

VI. RESEARCH RESULTS

Table 4 shows the Fornell-Lacker criteria. The results indicate that all diagonal values (1.000) are higher than the correlation values between constructs, which shows that the discriminant validity has been met.

Table 4: Fornell-Lacker Criteria

Construct 1	Construct 2	Correlation	Interpretation
Moderating Effect 1	Innovation	0.834	Strong correlation
Innovation	Intellectual Capital Disclosure	0.329	Moderate correlation
Innovation	Level of Competition	0.713	Strong correlation
Intellectual Capital Disclosure	Level of Competition	0.126	Low correlation
Company Size	All Other Constructs	-0.044 s/d 0.174	Low to negative correlation

(Source: PLS-SEM, Data Processed by Researchers (2025))

The highest correlation between innovation and level of industrial competition is 0.713, but from these results it seems that it is still less than the square root of the AVE of each construct (1.000). This implies that each construct of this model can be differentiated from each other empirically.

Table 5: Cross Loadings

Indicator	Highest Loading on Construct	Discriminant Validity
X (Company Size)	Company Size (1,000)	Valid
Z (Competition Level)	Competition Level (1,000)	Valid
Y (IC Disclosure)	Intellectual Capital Disclosure (1,000)	Valid
M (Innovation)	Innovation (1,000)	Valid
Innovation × Level of Competition	Moderating Effect (1,000)	Valid

(Source: PLS-SEM, Data Processed by Researchers (2025))

Table 5 indicates that each construct (X, M, Z, Y) has the highest loading value on its construct. The cross-loadings values show that each construct can distinguish itself from other constructs in the model. The results of the cross-loading test in this study show that the discriminant validity of the outer model has been met, so the model can go to the stage of testing the relationships between variables (inner model).

Table 6: Heterotrait Monotrait Ratio (HTMT)

Construct Pair	HTMT value	Discriminant Validity
Moderating Effect 1 – Innovation	0.0834	Valid
Innovation – Intellectual Capital Disclosure	0.329	Valid
Level of Competition – Innovation	0.713	Valid
Level of Competition – Intellectual Capital Disclosure	0.126	Valid
Company Size – Intellectual Capital Disclosure	0.174	Valid

(Source: PLS-SEM, Data Processed by Researchers (2025))

Table 6 presents the heterotrait-monotrait ratio (HTMT). All the HTMT values between constructs are less than 0.90, and most of them are well below 0.85. This means that each construct has a clear distinction and there is no issue of discrimination. So, the structural model is interesting to analyze further.

Table 7: Path Coefficient Results and Relationships Between Variables (Hypothesis)

Hypothesis	Explanation	Coefficient	t-statistic	p-value	Results Expectations
H1	Company Size Influences Innovation	-0,058	0,643	0,521	Not significant (Empirical results: no effect)
H2	Innovation influences ICD	1,506	4,201	0,000	Significant positive
H3	The level of industry competition moderates the effect of innovation on ICD	-0,575	3,328	0,001	Significant negative
H4	Company size has a direct impact on ICD	0,212	3,269	0,001	Significant positive
H5	The level of industry competition affects ICD	-0,744	3,697	0,000	Significant negative

(Source: PLS-SEM, Data Processed by Researchers (2025))

In explaining the findings, we use the results of the test in Table 7 as follows:

H1: How Company Size affects Innovation
The test statistics are: Coefficient: -0.058, T-statistic: 0.643, P-value: 0.521. This means that firm size does not significantly affect innovation.

H2: Innovation and Intellectual Capital Disclosure
The test results indicate that the coefficient is 1.506, t-statistic is 4.201 and p-value is 0.000. This means innovation is related to Intellectual Capital Disclosure (ICD).

H3: Industry competition moderates the relationship between innovation and Intellectual Capital Disclosure
The test results show a coefficient of -0.575, t-statistic of 3.328 and p-value of 0.001. This means that the industry competition weakens the positive impact of innovation on ICD.

H4: Company Size has a direct impact on Intellectual Capital Disclosure

The test results yield a coefficient of 0.212, a t-statistic of 3.269, and a p-value of 0.001. The results indicate that firm size has a positive and significant impact on ICD. Large companies are more likely to report on intellectual capital.

H5: Disclosure of Intellectual Capital Influenced by Industry Competition

The test results are showing the coefficient of 0.212, t-statistics of 3.269 and the p-value of 0.001 . The results indicate that firm size has a positive and significant impact on ICD. Larger firms tend to provide more information on intellectual capital to disclose more information regarding intellectual capital.

VII. DISCUSSION

This study aims to analyze the effect of firm size, innovation, and industry competition on ICD in consumer goods sector companies listed on the Indonesia Stock Exchange (IDX) for the period 2021-2023 with a sample of 61 companies.

A. The impact of firm size on innovation

The research findings show that firm size does not have a significant effect on innovation (coefficient = -0.058; p = 0.521). This implies that large firms are not necessarily more innovative. Innovation is not only a matter of firm size, but also of strategy, leadership, technology and organizational culture. These results are in agreement with [15], [25], [4]. These results do not confirm the results of

[32], [17] and [28] who conclude that larger firms are more innovative because they have more resources at their disposal.

The different outcomes show that innovation is not only a function of the size of a firm, but also of its business environment and the ability of its management to promote innovation. In practice, companies have to foster the creativity of their employees and provide room for the development of ideas and technology. From a governmental point of view, support for innovation should be given through research and development (R&D) incentives, training programs and the facilitation of inter-firm collaboration.

B. Innovation and the Disclosure of Intellectual Capital

The research results show that innovation has a positive and significant effect on intellectual capital disclosure (ICD) (coefficient = 1.506; p = 0.000). This shows that the more innovative a company is the more the disclosure of intellectual capital. This is in line with signaling theory and resource-based view which suggest that innovation is a strategic resource to improve a company's competitive advantage [5]. These results are consistent to [23] which states that innovative firms are more active in disclosing intellectual capital. However, this is different from the findings of [22] who found that the levels of ICD in developing countries are still low due to the weak regulatory systems.

Disclosure of intellectual capital in Indonesia is currently voluntary; it causes differences in the level of disclosure in the companies. Therefore, companies should improve the disclosure of their intellectual capital in the annual and sustainability reports. Regulatory bodies such as the OJK (Financial Services Authority) and the IAI (Institute of Indonesia Chartered Accountants) should promote such disclosures, and it is expected that these bodies will assist in the development of guidelines for intellectual capital disclosure, which will contribute to the improvement of corporate reporting in a more transparent and standardized manner.

C. Effect of Innovation on Intellectual Capital Disclosure Moderated by Level of Industry Competition

The research results show that industry competition has a significant negative moderating effect on the relationship between innovation and Intellectual Capital Disclosure (ICD) (coefficient = -0.575; p = 0.001). So, high levels of industry competition weaken the impact of innovation on intellectual capital disclosure. This is because firms are likely to restrict information on innovation to prevent it from being copied by competitors. The findings support the Resource-Based View and the Strategic Disclosure Theory. The results are consistent with [18], [7] and [20] who argue that competition can lead to reduced disclosure of strategic information by a firm. However, they contradict the findings of [31] who found that competition encourages companies to increase disclosure to build public trust.

Companies need to be more selective with the information they disclose in relation to innovation. Transparency needs to be maintained but not at the cost of competitive advantage. Regulators should strengthen the protection of intellectual property rights and develop guidelines for disclosure of intellectual capital.

D. The size of the company directly influences the disclosure of intellectual capital

The study results show that firm size has a positive and significant effect on intellectual capital disclosure (ICD) (coefficient = 0.212; p = 0.001). This means that the larger companies are more likely to disclose information on their intellectual capital. That's because large companies have more resources and feel more pressure to be transparent. These findings are consistent with legitimacy theory and agency theory. Information disclosure can raise the trust of the public and reduce the information gap between the management and shareholders.

The results are consistent with the findings of [7] [31] and [22] that big companies are more active in intellectual capital disclosure. However, [22] found that not all large firms provide extensive disclosure because there is no regulatory requirement for it at present. For companies it is necessary to raise the quality of disclosure on intellectual capital in relation to human resources, organizational systems and relations to stakeholders. We expect regulators to come out with guidelines on disclosure of intellectual capital, to bring more focus and transparency to corporate reporting.

E. The level of industry competition influences the disclosure of intellectual capital

The research results show that competition in the industry has a significant negative effect on intellectual capital disclosure (ICD) (coefficient = -0.744; p = 0,000). This means that firms which have more industry competition have a lower level of intellectual capital disclosure. The reason for this is that companies usually limit the information about their strategy in order not to be imitated by competitors. These results are consistent with the Strategic Disclosure Theory, which suggests that firms disclose information selectively to preserve competitive advantage.

These findings are consistent with [9], [18] and [26] who claim that intense competition may diminish the disclosure of strategic information. However, this is contrasted with the findings of [31] who found that transparency may improve the firm's reputation and market trust, despite the high competition.

The companies should practice selective disclosure of intellectual capital to ensure transparency and not to give away any critical information to competitors. Meanwhile, regulators should enhance the protection of intellectual property rights and encourage the establishment of clearer guidelines on the disclosure of intellectual capital.

VIII. CONCLUSION

- Innovation is independent of firm size.
- Innovation has a positive and significant impact on the disclosure of intellectual capital (ICD).
- Industry competition weakens the impact of innovation on ICD.
- Firm size positively and significantly affects ICD.
- The ICD has a significantly negative impact on industry competition.

IX. IMPLICATIONS FOR THEORY

This research contributes to the understanding of the relationship between intellectual capital and innovation, particularly in the Indonesian context, by:

- A demonstration of the influence of firm size, innovation and industry competition on intellectual capital disclosure, thereby enriching legitimacy, agency and strategic disclosure theories.
- Find that competition in the industry can decrease the impact of innovation on the disclosure of intellectual capital.
- Further evidence of the role of innovation in improving the disclosure of intellectual capital in Indonesia.

X. PRACTICAL IMPLICATIONS

The findings of this study provide several implications for firms and regulators, including:

- For corporate management: Companies should selectively disclose intellectual capital to maintain transparency without jeopardizing their competitive advantage over rivals.
- For large firms: Large firms have the resources to improve the quality of their intellectual capital disclosures.
- For regulators (OJK and IDX): Guidelines on disclosure of intellectual capital need to be prepared, adjusted to the characteristics of each industry.
- Incentives provision: OJK and IDX can provide recognition or awards to companies that have shown high quality and transparent disclosure of their intellectual capital.
- Training and education: Companies need training on how to disclose intellectual capital, including human resources, organizational systems and stakeholder relations.

XI. LIMITATIONS AND FUTURE RESEARCH

There are some limitations to this study, such as:

- The study was conducted only on companies in the consumer goods sector. As such, the findings may not be applicable to other sectors.
- The assessment of ICD (Intellectual Capital Disclosure) is done through content analysis, which can still lead to variations in evaluation.
- The study period is limited to the years 2021–2023 and does not represent long-term conditions.

XII. SUGGESTIONS FOR FUTURE RESEARCH

Future research could include several suggestions:

- Add more corporate sectors and more research time frame.
- Both quantitative methods and interviews are used to obtain more in-depth results.
- Adding extra variables such as corporate governance, ESG and institutional ownership.
- Cross-country comparisons to examine how differences in culture and regulation affect intellectual capital disclosure.

AUTHOR CONTRIBUTION

Author: Conceptualisation and Research Design, Data Collection, Methodology, Supervision, Writing Entire Paper, Conceptualisation, Data Collection and Analysis, Editing and Layouting. All Authors have read the final version of the paper.

DECLARATION OF INTEREST

The authors declare that they have no known competing financial or commercial interests that could have appeared to affect the work presented in this manuscript.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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