



Rizky Yudaruddin &lt;rizky.yudaruddin@feb.unmul.ac.id&gt;

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## Your paper under revision\_Journal of Governance and Regulation

8 messages

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**Daryna Chorna** <d.chorna@virtusinterpress.org>

Fri, Jul 16, 2021 at 4:33 PM

To: rizky.yudaruddin@feb.unmul.ac.id

Cc: anisa.kusumawardani@feb.unmul.ac.id, wirasmi.wardhani@feb.unmul.ac.id, siti.maria@feb.unmul.ac.id, Olha Lytvynenko &lt;olha.lytvynenko@virtusinterpress.org&gt;

Dear Rizky Yudaruddin,

I hope you are fine.

I am contacting you on behalf of Olha Lytvynenko, the managing editor of the *Journal of Governance and Regulation*.

Please find attached two reviewer's reports. The file titled Reviewer's Report\_2 contains the editorial note. The paper titled "*Board structure and disclosure of intellectual capital: An empirical study in Indonesia*" requires certain adjustments before it can be accepted for publication.

Please be so kind as to address the comments provided by the reviewers and the editorial team by **July 27** (please let me know if you need more time).

Please highlight in any colour all modifications to be introduced in the paper.

If you have any questions, please let me know.

*Please confirm you received this email.*

Best regards,

Daryna Chorna

Virtus Interpress

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### 3 attachments

 **Reviewer's Report\_1.pdf**  
249K

 **Reviewer's Report\_2.pdf**  
355K

 **Originality report.pdf**  
3144K

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**Rizky Yudaruddin** <rizky.yudaruddin@feb.unmul.ac.id>

Sat, Jul 17, 2021 at 3:25 PM

To: Daryna Chorna &lt;d.chorna@virtusinterpress.org&gt;

Dear Daryna Chorna

We thank the editor and reviewers for their thorough reading of our manuscript and their comments and suggestions that helped us to improve the manuscript. As indicated below, we have tried to do our best to respond to all the points raised. Please contact me if you need any further information.

Thank you for your assistance

Sincerely Yours,

Rizky Yudaruddin

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**3 attachments**

 **RESPONSE NOTES.docx**  
17K

 **19% BS on ICD.pdf**  
3173K

 **anisa kusumawardani JGR revision.docx**  
60K

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**Olha Lytvynenko** <olha.lytvynenko@virtusinterpress.org>

Mon, Jul 19, 2021 at 5:58 PM

To: Rizky Yudaruddin <rizky.yudaruddin@feb.unmul.ac.id>

Cc: anisa.kusumawardani@feb.unmul.ac.id, wirasmi.wardhani@feb.unmul.ac.id, siti.maria@feb.unmul.ac.id

Dear Rizky Yudaruddin,

I hope you are doing well. I am writing in case you haven't received the email from my colleague Daryna Chorna.

Please find the reviewer's reports and the editorial note attached below. The paper "*Board Structure and Disclosure of Intellectual Capital: An Empirical Study in Indonesia*" requires certain adjustments before it can be accepted.

Please be so kind as to address the comments provided by the reviewer and the editorial team and to send your revised manuscript by **July 27**.

Please mark the introduced changes in the manuscript (with some colour, if possible).

In attachment, you may also find the detailed instruction regarding CRediT-taxonomy and originality report.

If you have any questions, please let me know.

Please kindly confirm the receipt of this email.

Kind regards,

Olha

[Quoted text hidden]

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**Olha Lytvynenko**

Senior Managing Editor, Managing Editor of the journals "Corporate Ownership and Control", "Corporate Board: Role, Duties and Composition", "Journal of Governance and Regulation" and "Risk Governance and Control: Financial Markets & Institutions"

olha.lytvynenko@virtusinterpress.org

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### 3 attachments

 **Reviewer's Report\_1.pdf**  
249K

 **Reviewer's Report\_2.pdf**  
355K

 **Originality report.pdf**  
3144K

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**Rizky Yudaruddin** <rizky.yudaruddin@feb.unmul.ac.id>  
To: Olha Lytvynenko <olha.lytvynenko@virtusinterpress.org>

Mon, Jul 19, 2021 at 11:21 PM

Dear Olla

Many thanks for your attention.

First of all, we thank the editor and reviewers for their thorough reading of our manuscript and their comments and suggestions that helped us to improve the manuscript.

We have revised our manuscript and mark the introduced changes in the manuscript with comments (see, attachment).

Finally, we are interested in using the English proofreading service from the virtue team. Could you help me by providing the bank account number information for us to transfer?

Thank you for your assistance

Sincerely Yours,

Rizky Yudaruddin

[Quoted text hidden]

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### 4 attachments

 **anisa kusumawardani JGR revision.docx**  
64K

 **anisa kusumawardani JGR revision\_note.docx**  
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 **19% BS on ICD.pdf**  
3173K

 **RESPONSE NOTES.docx**  
17K

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**Olha Lytvynenko** <olha.lytvynenko@virtusinterpress.org>  
To: Rizky Yudaruddin <rizky.yudaruddin@feb.unmul.ac.id>

Tue, Jul 20, 2021 at 3:08 PM

Dear Rizky Yudaruddin,  
thank you very much for your quick response and provided revised manuscript.  
I'll contact you within a week with a decision of the editorial team.

Kind regards,

Olha

[Quoted text hidden]

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**Olha Lytvynenko** <olha.lytvynenko@virtusinterpress.org>  
To: Rizky Yudaruddin <rizky.yudaruddin@feb.unmul.ac.id>

Wed, Jul 21, 2021 at 3:50 PM

Dear Rizky Yudaruddin,  
thank you very much for your work and attention to the reviewer's and editor's comments.  
However, your manuscript requires a few more corrections from your side, namely:

1. Please explain why you chose this methodological approach and why you used specific tests to analyze your hypotheses.
2. The Research Methodology section should contain description of alternative methods that would be suitable for conducting similar research.
3. While you are discussing using tests please first discuss the rationale behind using them.
4. Please discuss the findings in more detail in the Discussion section and indicate the importance of these findings.
5. Please, try to focus on examining your research question/hypothesis with recommendations and implications, if any.
6. The primary theoretical and practical significance of the study should be added to the Conclusion.
7. Please add sources to all tables.

Please, be so kind as to address these comments and send me the final version of your paper by **July 27**.

I am looking forward to hearing from you.

Kind regards,

Olha

[Quoted text hidden]

**Rizky Yudaruddin** <rizky.yudaruddin@feb.unmul.ac.id>  
To: Olha Lytvynenko <olha.lytvynenko@virtusinterpress.org>

Thu, Jul 22, 2021 at 12:15 AM

Dear Olla

Many thanks for your attention.

First of all, we thank the editor and reviewers for their thorough reading of our manuscript and their comments and suggestions that helped us to improve the manuscript.

We have revised our manuscript and mark the introduced changes in the manuscript with comments (see, attachment).

Thank you for your assistance

Sincerely Yours,

Rizky Yudaruddin

[Quoted text hidden]

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## 2 attachments

 **anisa kusumawardani JGR revision 2.docx**  
68K

 **anisa kusumawardani JGR revision 2\_note.docx**  
74K

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**Olha Lytvynenko** <olha.lytvynenko@virtusinterpress.org>  
To: Rizky Yudaruddin <rizky.yudaruddin@feb.unmul.ac.id>

Thu, Jul 22, 2021 at 2:51 PM

Dear Rizky Yudaruddin,  
thank you for your very quick reply and provided revised manuscript.  
I'll contact you within a week with a decision of the editorial team.

Kind regards,  
Olha

[Quoted text hidden]

[Quoted text hidden]

### Reviewer's Report

<b>Journal:</b>	Journal of Governance and Regulation		
<b>Title of the paper:</b>	Board Structure and Disclosure of Intellectual Capital: An Empirical Study in Indonesia		
<b>Date of the Review completion:</b>	14 July 2021		
<b>Please choose options that can characterize the paper:</b>			
<b>Originality and importance of the paper to the field of research:</b>	High		
<b>The structure of the paper:</b>	Is easy to follow and understand		
Please tick relevant for the <b>abstract</b>	The abstract provides an accurate summary of the manuscript (including aim, methods, key results and relevance of the study)	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	The abstract contains unnecessary information (please explain)	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no
	Is the abstract of appropriate size? (150-200 words)	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
Please tick relevant for the <b>introduction</b>	Does the introduction identify the purpose of the paper or hypothesis and set the paper within the broader research perspective?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	The introduction puts the rest of the paper into perspective (explains paper's structure)	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
<b>Methods used in the paper:</b>	Suit the aim of the research		
	Does the methodology part allow replicating or reproducing results (to check them or to perform a similar study)?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	If empirical study: is the sample size large enough and was selected in an appropriate way (leave blank if not acceptable)?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
<b>Results and discussion:</b>	Are the interpretations provided by the author(s) supported by the findings obtained in the study?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
Are there any <b>figures or tables</b> that have to be corrected / deleted?	Yes, some corrections need to be done (please explain)		
	Are the figures and/or tables clear and you can understand their essence?	<input type="checkbox"/> yes	<input type="checkbox"/> no
<b>Conclusions:</b>	Do not reveal main findings of the paper		
	Conclusions are supported by the findings, analysis and interpretations of the author(s)	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	Does the conclusion section repeat the abstract of the paper?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
<b>References</b>	Are all references in the list used in the paper?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	Are the number, relevance and "age" of the citations appropriate?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
<b>Language of the paper:</b>	Is adequate (small mistakes)		
<b>Length of the paper:</b>	Is appropriate		
<b>What is your main verdict?</b>	Accept paper with the changes that should be made by the author/authors		

#### Field for the comments of the reviewer:

In the period studied (2008-2017), there have been changes in the IASC and IFRS, which affected the disclosures and the composition of some assets and liabilities. This obviously affects the Financial Statements of the periods studied. I suggest mentioning this aspect as a limitation in the discussion or conclusion, as elements that alter the results obtained and, if possible, determine this incidence in the results obtained, given that the data is not completely comparable.

### Reviewer's Report

<b>Journal:</b>	Journal of Governance and Regulation		
<b>Title of the paper:</b>	<b>Board Structure and Disclosure of Intellectual Capital: An Empirical Study in Indonesia</b>		
<b>Date of the Review completion:</b>	15 July 2021		
<b>Please choose options that can characterize the paper:</b>			
<b>Originality and importance</b> of the paper to the field of research:	Medium		
The <b>structure</b> of the paper:	Is easy to follow and understand		
Please tick relevant for the <b>abstract</b>	The abstract provides an accurate summary of the manuscript (including aim, methods, key results and relevance of the study)	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	The abstract contains unnecessary information (please explain)	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no
	Is the abstract of appropriate size? (150-200 words)	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
Please tick relevant for the <b>introduction</b>	Does the introduction identify the purpose of the paper or hypothesis and set the paper within the broader research perspective?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	The introduction puts the rest of the paper into perspective (explains paper's structure)	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
<b>Methods</b> used in the paper:	Suit the aim of the research		
	Does the methodology part allow replicating or reproducing results (to check them or to perform a similar study)?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	If empirical study: is the sample size large enough and was selected in an appropriate way (leave blank if not acceptable)?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
<b>Results and discussion:</b>	Are the interpretations provided by the author(s) supported by the findings obtained in the study?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
Are there any <b>figures or tables</b> that have to be corrected / deleted?	Yes, some corrections need to be done (please explain)		
	Are the figures and/or tables clear and you can understand their essence?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
<b>Conclusions:</b>	Explain main findings of the paper and are formulated correctly		
	Conclusions are supported by the findings, analysis and interpretations of the author(s)	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	Does the conclusion section repeat the abstract of the paper?	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no
<b>References</b>	Are all references in the list used in the paper?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
	Are the number, relevance and "age" of the citations appropriate?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
<b>Language</b> of the paper:	Is adequate (small mistakes)		
<b>Length</b> of the paper:	Is appropriate		
<b>What is your main verdict?</b>	Accept paper with the changes that should be made by the author/authors		

#### Field for the comments of the reviewer:

The paper is well structured, but the paper's abstract does not provide any info regarding the relevance of the study.

The introduction is ok because it gives a good representation and an overview of the paper. The author should explain why they chose this methodological approach and why they used specific tests to analyze their hypotheses. Research Methodology should also include some alternative methods that may be used for similar research. You are discussing using test please first discuss the rationale behind using them. I think it is important to mention some of the limitations of the study. The authors in the discussion section should discuss their findings more and why they think these findings are important. Please, try to focus on examining your research question/hypothesis with

recommendations and implications, if any. Conclusion is a short summary of the main results; however, the primary theoretical and practical significance of the study should be added there. Finally, the English language needs to be more edited and proofread before publishing in a journal. There are some grammatical mistakes. In all tables, the authors should add the sources. I think that the authors should revise the paper for minor errors and submit it again.

### **Editorial Note**

- 1) As far as the *Journal of Governance and Regulation* is an international journal, it is recommended not to indicate titles of individual countries in the titles. However, you are free to indicate this information in the abstract, keywords and throughout the paper.
- 2) The editorial team of the journal suggests to use the following title of the article: “*Board structure and disclosure of intellectual capital: An empirical study in an emerging market*” in order to increase the readability of your paper and the citation rate.
- 3) In order to enhance the readability of the manuscript, please provide in the Abstract more detailed description of the research problem, purpose of the research, methodology used, main findings of the paper, conclusion, and relevance of the paper. Please note that the appropriate length of the abstract should not exceed 200 words.
- 4) It is preferable that the Abstract contains 1–2 in-text citations of the sources mentioned in the list of references that the research is based on or that the research contributes to.
- 5) As for the Literature Review section it is important to add a few more references of the recent years (2021, 2020, 2019, 2018 and 2017) in order to make the paper more citable.
- 6) The Research Methodology section should contain description of alternative methods that would be suitable for conducting the research.
- 7) We recommend specifying more deeply why this paper is important for future research (the Conclusion section) and whether there are some limitations of the research. In general, please, provide more detailed conclusions.
- 8) Please add a few more references of last 4 years (2018–2021). It would positively influence paper’s citation. You may use this set of paper collections to add some more references: <https://virtusinterpress.org/A-set-of-updated-thematic-paper-collections-from-Virtus-Interpress.html>
- 9) All the submissions go through an originality check and there were some issues detected (please see the attached report). The percentage of compiled text is 41, however, the acceptable percentage in order to continue on with the publishing procedure is no more than 20. Please rephrase some paragraphs of the paper (highlighted with some colour in the originality report).
- 10) The paper requires English proofreading (language and typos) so that your paper may be read and cited by a wide audience of readers throughout the world. Please proofread the paper. If you want the team of Virtus Interpress to do English proofreading of your paper, you may order this service at a moderate fee (90 EURO). We’ll do this work professionally, qualitatively and within a short period of time (up to one week).



## RESPONSE NOTES

1	<p>As far as the Journal of Governance and Regulation is an international journal, it is recommended not to indicate titles of individual countries in the titles. However, you are free to indicate this information in the abstract, keywords and throughout the paper.</p> <p><i>We thank the reviewer for pointing this out and we modified our titles</i></p>
2	<p>The editorial team of the journal suggests to use the following title of the article: “Board structure and disclosure of intellectual capital: An empirical study in an emerging market” in order to increase the readability of your paper and the citation rate.</p> <p><i>We thank the reviewer for flagging this out, and we've made the necessary changes to our titles.</i></p>
3	<p>In order to enhance the readability of the manuscript, please provide in the Abstract more detailed description of the research problem, purpose of the research, methodology used, main findings of the paper, conclusion, and relevance of the paper. Please note that the appropriate length of the abstract should not exceed 200 words.</p> <p><i>We thank the reviewer for bringing this to our attention, and we have revised our abstract accordingly.</i></p>
4	<p>It is preferable that the Abstract contains 1–2 in-text citations of the sources mentioned in the list of references that the research is based on or that the research contributes to</p> <p><i>We thank the reviewer for suggesting that a discussion of the aforementioned point be included in the abstract.</i></p>
5	<p>As for the Literature Review section it is important to add a few more references of the recent years (2021, 2020, 2019, 2018 and 2017) in order to make the paper more citable.</p> <p><i>We thank the reviewer for the suggestion and a paragraph that discusses the aforementioned point has been added in the manuscript as many as 5 articles.</i></p>
6	<p>The Research Methodology section should contain description of alternative methods that would be suitable for conducting the research.</p> <p><i>We appreciate the reviewer's recommendation that a section discussing the aforementioned point be added to the manuscript.</i></p>
7	<p>We recommend specifying more deeply why this paper is important for future research (the Conclusion section) and whether there are some limitations of the research. In general, please, provide more detailed conclusions.</p> <p><i>In line with the reviewer's suggestion, along with the suggestion from other reviewers, we modify our conclusion.</i></p>
8	<p>Please add a few more references of last 4 years (2018–2021). It would positively influence paper's citation. You may use this set of paper collections to add some more references: <a href="https://virtusinterpress.org/A-set-of-updated-thematic-paper-collectionsfrom-Virtus-Interpress.html">https://virtusinterpress.org/A-set-of-updated-thematic-paper-collectionsfrom-Virtus-Interpress.html</a></p> <p><i>We thank the reviewer for the suggestion and a paragraph that discusses the aforementioned point has been added in the manuscript as many as 5 articles.</i></p>
9	<p>All the submissions go through an originality check and there were some issues detected (please see the attached report). The percentage of compiled text is 41, however, the acceptable percentage in order to continue on with the publishing procedure is no more than 20. Please rephrase some paragraphs of the paper (highlighted with some colour in the originality report).</p> <p><i>We amend our work by paraphrasing it to make it 19 percent (see file attachment 19% BS</i></p>

	<i>on ICD)</i>
10	<p>The paper requires English proofreading (language and typos) so that your paper may be read and cited by a wide audience of readers throughout the world. Please proofread the paper. If you want the team of Virtus Interpress to do English proofreading of your paper, you may order this service at a moderate fee (90 EURO). We'll do this work professionally, qualitatively and within a short period of time (up to one week).</p> <p><i>We are interested in using the English proofreading service from the virtus team. Could you help us by providing the bank account number information for us to transfer?</i></p>

# BOARD STRUCTURE AND DISCLOSURE OF INTELLECTUAL CAPITAL: AN EMPIRICAL STUDY IN AN EMERGING MARKET

Anisa Kusumawardani\* Wirasmi Wardhani\*, Siti Maria\* Rizky Yudaruddin\*\*

\*Lecturer at Mulawarman University's Faculty of Economics and Business, Indonesia. Email: [anisa.kusumawardani@feb.unmul.ac.id](mailto:anisa.kusumawardani@feb.unmul.ac.id); ORCID: <https://orcid.org/0000-0001-5353-8910>

\*Lecturer at Mulawarman University's Faculty of Economics and Business, Indonesia. Email: [wirasmi.wardhani@feb.unmul.ac.id](mailto:wirasmi.wardhani@feb.unmul.ac.id); ORCID: <https://orcid.org/0000-0003-2068-2283>

\*Lecturer at Mulawarman University's Faculty of Economics and Business, Indonesia. Email: [siti.maria@feb.unmul.ac.id](mailto:siti.maria@feb.unmul.ac.id); ORCID: <https://orcid.org/0000-0002-9339-6985>

\*\*Corresponding Author. Lecturer at Mulawarman University's Faculty of Economics and Business, Indonesia, Indonesia [Postal Address: Jl.Tanah Grogot No.1, Kota Samarinda, Kalimantan Timur, 75117, Indonesia] Tel: (0541) 738916, Email: [rizky.yudaruddin@feb.unmul.ac.id](mailto:rizky.yudaruddin@feb.unmul.ac.id); ORCID: <https://orcid.org/0000-0002-0850-9747>

## Abstract

Capital market regulators have concentrated on company transparency, including and also ICD (intellectual capital disclosure) throughout the previous decade. Jensen & Meckling (1976) stated that high disclosure can reduce agency cost and the uncertainty faced by investors. This research aims to explore the ways board structure, comprising board size, independence, female board member and CEO dichotomy, affects Intellectual capital disclosure within Indonesia. A sample comprising 323 non-commercial companies in 7 industries listed publicly from 2008 to 2017 on Indonesia Stock Exchanges (IDX) was analyzed using ordinary least squares (OLS) regression. This study found a positive and significant of Board Size which implied that higher total number of members of the board of directors' results in higher extent of ICD. The larger the number of outside board members, the better. This makes the board more independent and allows it to provide a higher level of corporate governance to shareholders. The findings revealed the level of ICD significantly and negatively affected CEO duality statistically. The complete findings indicated robust implications of board structure on ICD. This study is capable of utilization to facilitate higher intellectual capital awareness and foster ICD execution by IDX being Capital market administrators.

**Keywords:** Board Structure, Board Size, Board Independence, Intellectual Capital Disclosure

**JEL Classification Code:** E44, M13, O34

**Authors' individual contribution:** Conceptualization — A. K.; Methodology — A. K., W. W., S.M., and R.Y.; Investigation — A. K., W. W., S.M., and R.Y.; Resources — A. K., W. W., S.M., and R.Y.; Data Curation — R.Y.; Writing — Original Draft — A.; Writing — Review & Editing — A. K., W. W., S.M., and R.Y.; Supervision — A.K.; Project Administration — A.K.; Funding — A.K.

**Declaration of conflicting interests:** The Authors declare that there is no conflict of interest

**Acknowledgements:** The Faculty of Economics and Business of Mulawarman University provided financial support for this research (number of contract 040/UN/2021).

## 1. INTRODUCTION

In the past decade, capital market regulators in Indonesia have focused on disclosure by companies including disclosure of intellectual capital (ICD). Disclosure of company information plays an important role for investors to assess risks and opportunities appropriately. The existence of elements of uncertainty regarding the quality of the company, in terms of assets or cash flow risk and marketable securities, makes investors propose for additional information to reduce the possibility of errors in making investment decisions.

The annual reports' information disclosure comprises mandatory and voluntary, with the former being a requisite of applicable accounting regulations and standards, while the latter is employed for company administrators to offer accounting and further information important for annual report users in making decisions. Mandatory disclosure or voluntary disclosure is the best way to publish information related to the condition of the company at a certain time to shareholders. However, many investors think that companies in Indonesia only focus on mandatory disclosure rather than voluntary disclosure. Therefore, companies need to be encouraged to increase voluntary disclosure.

Jensen & Meckling (1976) stated that high disclosure can reduce agency cost and the uncertainty faced by investors. Good corporate governance can provide guarantees of protection to investors against the uncertainty inherent in investment. The structure and processes in corporate governance can improve the quality, supervision, and performance of investment in intellectual capital (Keenan & Aggestam, 2001). In other words, corporate governance is responsible and ensures that intellectual capital runs well so that it can create corporate value. Adequate corporate governance offers proper inducement for chasing objectives for the company and shareholders' interests by boards and management, and promotes efficient supervision, therefore enhancing better organizational voluntary disclosure quality.

Moreover, the advantage of companies implementing adequate organizational governance comprises a growth in investor confidence level for financing such company, and an influence on company information disclosure to financial statements users, therefore, lessening information asymmetry. The various legislations introduced by capital market authorities comprise Financial Authority Services Regulation No. 29 / POJK.04 / 2016 regarding Yearly Report of Public corporations or Issuers. Subsequently, Financial Authority Services Regulation No. 43 became official to supervise corporate governance and information disclosure for public corporations or issuers fulfilling the criteria of having smaller and medium-scale properties. However, many companies' increases in intellectual capital are not in line with the level of ICD.

This research investigates the impact on ICD by board structure, comprising board size, female board member, board independence, and CEO dichotomy, within Indonesia. The study was performed this emerging country and provides an interesting context for investigation. Much of the previous research on ICD focus the investigations in developed countries (Vergauwen & Van Alem, 2005; Bruggen et al., 2009; Ben-Amar, et al. 2017; Cerbioni & Parbonetti, 2007; Lim, et al. 2007; Li, et al. 2008; Nalikka, 2009; Tejedo-Romero, et al. 2017 and Nadeem, 2020). In fact, capital markets in emerging countries have different characteristics from capital markets in developed countries. Narayan et al., (2011), showed that capital markets in developed countries have well-established stock markets, and most have developed through processes of globalization and financial liberalization. Therefore, to get a better description of the state of the financial system, it is necessary to consider the characteristics of the country (Bayraktar, 2014). Additionally, this study focuses on the board structure because it affects a variety of aspects of the business, including internal control (Koutoupis & Pappa, 2018; Al-Adeem & Al Sogair, 2019), company performance (Dao Binh & Nguyen Tra, 2020; Abdel-Azim & Soliman, 2020; Saerang et al., 2018), and stock market performance (Berbou & Sadqi, 2020).

A sample comprising 323 firms publicly recorded on the IDX covering 2,634 company-year observations or 7 industrial-sectors from 2008 to 2017 revealed board size positively impacted ICD.

Furthermore, CEO duality was discovered as significantly and negatively associated with ICD level statistically. The findings survive consistent robustness tests, comprising substitute ICD measures having endogeneity issues, different sub samples and diverse ICD groupings.

The research enhances studies on this topic by three major ways. First, previous studies have shown a different focus of determinants of ICD. Li, et al., (2008), Keenan & Aggestam, (2001), Haniffa & Cooke, (2002), Cheng & Courtenay (2006), Lim, et al., (2007), Cerbioni & Parbonetti (2007), García-Meca & Sánchez-Ballesta (2010), Muttakin, et al., (2015) evaluation of the association between ICD and corporate governance, found company boards have the responsibility to use intellectual capital to increase corporate value. Furthermore, Nalikka (2009), Lucas-Pérez. et al., (2015), Tejedo-Romero, et al., (2017), Ben-Amar, et al., (2017), investigated connection female board members had with IC disclosure. Recently, Nadeem (2020) examined the way boardroom gender diversity (BGD) influenced ICD. Therefore, attempt is made to fill the lacuna in discovering the particular board structure with impact on ICD. This might have important effect for capital market authorities and firms to have regulation in dealing with ICD.

Second, this study focuses on investigating board structure on ICD in Indonesia, as the biggest stock market in Southeast Asia (Hadjaat et al., 2021). Most studies which focused on ICD in Indonesia only comprised data from several firms (in limited samples and years). For instance, Naimah & Mukti (2019) using 45 sampled-companies in LQ45 index within 2013–2014, investigated ways audit working group and company's qualities affected ICD. Widiatmoko, et al., (2020) focused on using 16 companies during 2015–2018, to test the influences of corporate governance index on ICD. Meanwhile, Hamidah (2020), used 35 companies listed during 2013-2017 periods. This study significantly provides a large sample size and period analysis of ICD in Indonesia. Thirdly, the research findings promote particular knowledge of board structure attributes and ICD procedure to support earlier study discoveries focused on emerging nations also (Abeysekera, 2010; Barako, et al., 2006; Haniffa & Cooke, 2002; Muttakin, et al., 2015).

Subsequent parts of this research are outlined below. The potential impact on ICD by board structure comprising board size, female board member, board independence and CEO dichotomy is addressed in segment 2, while segment 3 describes the methodology. The fourth segment explores econometric technique and data, while the fifth covers empirical findings comprising robustness analysis. Lastly, segment 6 concludes, recommends limitation and ways forward.

## **2. LITERATURE REVIEW**

### **2.1. Board Size**

Board size has an influence on ICD. Hidalgo, et al., (2011) suggested the increase to 15 of board members' numbers beneficially affects ICD, however where the increase exceeds 15, the effect will be detrimental to the supervision, control and retrieval processes. decisions regarding intellectual capital disclosure. Therefore, the recommendation is for a maximum amount of 15 members for effectiveness.

Some previous studies revealed board size positively and significantly influenced ICD, including the research performed by Abeysekera (2010); Hidalgo, et al., (2011); Lim, Matolcsy, & Chow (2007); Rositha et al. (2019); Nadeem (2020); Hatane et al. (2020), Hesniati, (2021). Meanwhile, Cheng & Courtenay (2006) discovered board size positively but insignificantly impacted voluntary disclosure, but Cerbioni & Parbonetti (2007) indicated negative and substantial findings related to board size and disclosure of intellectual capital.

H1: Board size positively impacts intellectual capital disclosure.

### **2.2. Board Independent**

Board independent can provide good disclosure for the company. Haniffa & Cooke (2002) explained that regarding firm disclosure, a noteworthy variable to investigate is likely board composition due to the indirect reflection of independent director's roles, meaning higher disclosure is likely anticipated where the supervisory responsibility is performed compared to perceived supervisory responsibility. Similarly, the dominance, particularly numbers, is capable of offering higher power to require disclosure by management.

Previous studies found positive association of board independence on extent of ICD (Cheng & Courtenay, 2006; Cerbioni & Parbonetti, 2007; Lim, et al., 2007; García-Meca & Sánchez-Ballesta, 2010; Li, et al., 2008; Kamath, B., 2019). Recently, Muttakin, et al. (2015) focusing on companies in Bangladesh discovered a substantial impact on ICD by board independence. However, other studies found different results including Hidalgo, et al. (2011), Ho & Wong, (2001); Taliyang & Jusop (2011) with documentation signifying insignificant and positive results. Meanwhile, Barako et al. (2006) discovered a negative and important connection between ICD levels and board independence.

H2: Board independence positively impacts intellectual capital disclosure.

### **2.3. Female Board Members**

Previous studies prove that gender diversity enhances voluntary disclosure levels. Women on board show greater persistence in monitoring so that gender diversity is claimed to lead to better manager supervision and increase voluntary disclosure (Barako & Brown, 2008; Adams & Ferreira, 2009; Srinidhi et al., 2011; Lucas-Pérez. et al., 2015; Ben-Amar, et al., 2017; Tejedo-Romero, et al., 2017). Most recently, Nadeem (2020) found positive effect on ICD by female board members in China. However, the opposite result was found by Herli, et al., (2021) and Nalikka (2009) investigation of Helsinki Stock Exchange's listed firms comprising 108, indicating female board members do not significantly influence voluntary disclosure level.

H3: Women on board positively impacts intellectual capital disclosure.

### **2.4. CEO Dichotomy**

CEO Dichotomy is a substantial issue in dividing decision management from control and possess potential to increase information asymmetry (Fama & Jensen, 1983; Jensen, 1993). The CEO duality is able to erode independence of board and interfere with supervision and governance functions, therefore causing concentration of decision-making power and reducing voluntary disclosure of information (Foraker, 1992; Jensen, 1993; Dahya et al., 1996; Gul & Leung, 2004; Lakhali, 2005). Empirical investigations, Gul & Leung (2004), Cerbioni & Parbonetti (2007) and Nadeem (2020) found a negative and significant relationship between ICD and CEO dichotomy. However, Li et al., (2008), Hidalgo, et al., (2011), Martins et al., (2016) discovered no substantial connection.

H4: CEO dichotomy negatively impacts intellectual capital disclosure.

## **3. RESEARCH METHODOLOGY**

### **3.1. Sample and Data**

The sample comprises firms listed publicly on IDX. To classify the sample of firms into the following industries, we used seven industry (non-finance) classifications from the Indonesia Stock Exchange as a guide: 15 agriculture industry companies, 33 Mining industry companies, 55 Basic Industry & Chemicals industry companies, 34 Miscellaneous industry companies, 25 Consumer Goods

industry companies, 48 PropertyRealEstate & BuildingConstruction industry companies, and 113 TradeServices & Investment industry companies. Yearly reports were employed as data source for each sample companies. This research covers the years 2008 to 2017, allowing for an examination of Indonesia's ICD reporting patterns. As of December 31, 2017, 422 firms were recorded on Indonesia stock exchange. Just 323 firms, however, met the requirements.

### 3.2. Variables

Three variables comprising dependent, independent, and control were used. The dependent variable is Intellectual Capital Disclosure. Human capital category (HCC), Internal capital category (ICC) and external capital category (ECC) are the three types of intellectual capital disclosure. The disclosure index built with adapted technique by Vergauven & Alem (2005) and Muttakin et al. (2015) was used to measure the Intellectual Capital Disclosure.

Intellectual Capital Disclosure calculations were based on content analysis, as stated by Muttakin et al. (2015), Abeysekera, (2010), and Cerbioni & Parbonetti (2007). An unweighted dichotomous procedure was used in the study of the Intellectual Capital Disclosure. Following the content review process, score 1 if the annual report includes the item disclosure; score 0 if the annual report does not include the item disclosure. The disclosure score index is built as follows:

$$ICD_j = \frac{\sum_{t=1}^{n_j} X_{t,j}}{m}$$

where  $n_j$  is a firm's overall actual disclosure ranking, and  $m$  is the number of related disclosure items (32 items).

The board structure, which includes Board Size, Board Independence, Women on Boards, and CEO Duality, is the dependent variable in this analysis. Leverage, Firm Age, Board Meetings, Type of Auditor, Ownership Concentration, Profitability, and Firm Size are all control variables. We used several control variables such as LEVE, AGEF, BMEET, CONS, BIG4, ROA, and FS (Tejedo-Romero, et al., 2017; Cerbioni & Parbonetti, 2007; Brüggem et al., 2009; Martins et al., 2016; Masum, et al., 2020; and Nadeem, 2020). Because of the high level of financial risk faced by the company, companies with a higher leverage ratio (LEVE) would reveal more information, particularly information about intellectual capital. Companies with a longer history (AGEF) reveal more detail. Companies with a high level of meeting activity (BMEET) enjoy disseminating information to the general public. When it comes to the ownership concentration (CONS) dimension, dispersed ownership is more important in terms of getting access to the details they need to share less. When financial statements demonstrate strong financial results, companies are more likely to reveal more details (ROA). Large corporations are more inclined to release more information (FS). Table 1 lists the independent and control variables that represent the constructs.

**Table 1.** Independent and Control Variables

Variables	Symbol	Definition and measure	Expected Sign	Data source
<b>Independent</b>				
Board Size	BSIZE	Overall amount of board of directors' members (%)	+	Nadeem (2020)
Board Independence	BIND	The proportion_of_independent directors to overall amount of directors (%)	+	Nadeem (2020)
Women on Boards	BWOM	The proportion of female board members to overall amount of directors (%)	+	Tejedo-Romero, et al., (2017)
CEO Duality	DUAL	This dummy variable, which evaluates to either 1 or 0, takes into consideration duality or absence of duality.	-	Nadeem (2020)
<b>Control</b>				
Leverage	LEVEG	total debt/total equity (%)	+	

AgeofFirm	AGEF	The age of a company as of the day it was founded.		Brüggen et al., (2009), Martins et al., (2016), Tejedo-Romero, et al. (2017), and Nadeem (2020)
Board Meeting	BMEET	The total number of board meetings that occur per year.	+	
Ownership Concentration	CONS	5% of the shares are owned by one or more people.	+	
TypeofAuditor	BIG4	Dummy variable with the value 1 if the client is a Big 4 auditor and 0 if the client is not.	+	
Profitability	ROA	netprofit/ total asset (%)	+	
Firms Size	FS	Ln total_assets	+	

Source: Author's own summary

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### 3.3. Research Model

The association between the board structure variables and ICD level was investigated using a regression analysis technique in this research. Linear regression is a technique for analyzing quantitative data that connects two or more quantitative variables in a research model in order to determine possible causal relationships between board structure and ICD. Following Muttakin et al. (2015), OLS with robust standard errors method was used in this analysis. When estimating with OLS, however, certain assumptions in the regression test necessitate Best Linear Unbiased Estimator (BLUE). Therefore, heteroscedasticity and autocorrelation (HAC) robust standard errors involving panel data are employed for tackling Heteroscedasticity and Autocorrelation concerns (Wooldridge, 2009). Finally, distinct sectors are represented by year dummies and industry dummies in this study. This is used to deal with the problem of "unobservable effects". Moreover, to deal with endogeneity problem in regression an alternative estimation of the generalized method of moments (GMM) is utilized for robustness test (Nadeem, 2020). Therefore, empirical validation of the formulated research hypothesis will be carried out by performing multiple linear regression based on the following regression model:

$$ICD_{i,t} = \alpha_{i,t} + \beta_1 BSIZE_{i,t} + \beta_2 BIND_{i,t} + \beta_3 BWOM_{i,t} + \beta_4 DUAL_{i,t} + \beta_5 LEVEG_{i,t} + \beta_6 AGEF_{i,t} + \beta_7 BMEET_{i,t} + \beta_8 CONS_{i,t} + \beta_9 BIG4_{i,t} + \beta_{10} ROA_{i,t} + \beta_{11} FS_{i,t} + \varepsilon_{i,t} \quad (1)$$

where:

$\alpha$  is constant,  $\beta_1 - \beta_{11}$  are coefficients of variables,  $\varepsilon$  is the error term.

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2. The Research Methodology section should contain description of alternative methods that would be suitable for conducting similar research.  
3. While you are discussing using tests please first discuss the rationale behind using them.

## 4. RESULTS

For the entire study, Table 2 displays descriptive statistics on employed variables in the research. Our sample's average Intellectual Capital Disclosure is 0.5196, with a standard deviation of 0.1641. The entire true disclosure of the total disclosure items is more than half of the average Intellectual Capital Disclosure for the study, according to these findings (32 items). Except for the leverage variable, the total of the variables exceeds the standard deviation, showing that the variables are fairly represented.

**Table 2:** Descriptive statistics for all variables (N = 2634)

Variables	Mean	Std. Dev	Min	Max
IC	0.5196	0.1641	0.0625	1.1875
BFSIZE	4.2976	1.7546	2	13
BIND	0.3987	0.1208	0.1	0.8333
BWOM	0.4096	0.6657	0	5
DUAL	0.2839	0.4510	0	1
LEVE	1.6614	6.0520	-38.525	216.25
AGEF	31.689	17.534	3	117
BMEET	6.9605	6.3774	1	53

*We thank the reviewer for the suggestion and a paragraph that discusses the aforementioned point has been added in the manuscript.*



CONS	51.896	21.038	10.09	97.67
BIG4	0.3090	0.4621	0	1
ROA	0.4118	1.8849	-6.230	50.678
FS	23.240	5.0853	10.946	32.214

Dichotomous variables	Yes (%)	No (%)
DUAL	28.40	71.60
BIG4	69.10	30.90

Source: STATA database. Author's own calculations

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Table 3 shows the extent of relationship among the explanatory variables, employed in testing multivariate regression. The correlation matrix reveals absence of strong correlation in all explanatory variables to indicate multicollinearity is not a concern. Based on Kennedy (2008), a correlation higher than 0.70 means multicollinearity is not a problem within the data. Therefore, no multicollinearity problem exists in this circumstance.

Table 3: Correlation Matrix

Variables	BSIZE	BIND	BWOM	DUAL	BMEET	FS	LEVEG	ROA	AGEF	CONS	BIG4
BSIZE	1.0000										
BIND	-0.1267	1.0000									
BWOM	0.0777	0.0851	1.0000								
DUAL	0.0007	0.0511	0.0235	1.0000							
BMEET	-0.0022	-0.0930	0.0411	0.0121	1.0000						
FS	-0.2300	0.0332	0.0851	-0.0248	0.1007	1.0000					
LEVEG	0.0090	-0.0191	-0.0036	0.0177	-0.0165	0.0199	1.0000				
ROA	-0.0096	0.1656	0.1094	0.0962	-0.0189	-0.0751	-0.0167	1.0000			
AGEF	0.1829	-0.0659	0.0828	0.0425	0.1311	-0.1029	-0.0115	-0.0082	1.0000		
CONS	0.0699	-0.0198	-0.0058	-0.0009	0.0400	-0.1318	-0.0688	-0.0468	0.1345	1.0000	
BIG4	0.2588	-0.0701	-0.0894	0.0525	-0.0196	-0.3162	0.0046	0.0273	0.1072	0.0865	1.0000

Source: STATA database. Author's own calculations

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Table 4 reports the results of the relationship between intellectual capital disclosure and the explanatory variables. In model 4, the analysis involves all variables such as main independent, control variables, years, and industry dummies. This study shows that the R Square is 0.1065. This means that the independent variable can influence the dependent variable (intellectual capital disclosure) by 10.65%, while the remaining 89.35% is explained by other variables not included in this study model.

The outcomes presented in Table 3 also show the influence of board structure on intellectual capital disclosure. In column 1 - 4, the coefficient on Board Size (BSIZE) is positive ( $\beta = 0.0067$ ;  $\beta = 0.0074$ ;  $\beta = 0.0044$ ;  $\beta = 0.0053$ ) and significant (at 0.01), thus supporting H1. This study finds a negative and significant coefficient of Board Independent (BIND) and CEO Duality (DUAL) which implies that higher percentage of Board Independent (BIND) and CEO Duality (DUAL) results in lower level of intellectual capital disclosure, thus supporting H3 and H4.

## 5. DISCUSSION

For the entire Table 4 reports findings for association between Intellectual Capital Disclosure and the explanatory variables. This study assessed the specification using OLS with heteroscedasticity and autocorrelation (HAC) robust standard, while in the part of specifications, we include control variables, industry dummy and year dummy. This study tested the effect of board structure hypothesized variables. This study discovered a positive and significant BSIZE (Board Size) coefficient, implying that a larger overall number of board members resulted in a greater degree of ICD, therefore validating H1. The

greater the number of members of the board of commissioners with diverse educational backgrounds and experience, the more effectively the burden may be distributed. This, in turn, can increase the quality of decision making, represent stakeholders' interests, and reduce the CEO's dominance. As a result, the ICD is pushed upward by the board size. The empirical finding is consistent with Abeysekera (2010); Hidalgo, et al., (2011); Lim, Matolcsy, & Chow (2007); Rositha et al. (2019); Nadeem (2020); Hatane et al. (2020), Hesniati, (2021) providing support to the argument that total members of the board size have a beneficial effect on intellectual capital disclosure.

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**Table 4: Board Structure and ICD**

Explanatory Variables	ICD (Dependent Variable)			
	(1)	(2)	(3)	(4)
BFSIZE	0.0067*** (0.0018)	0.0074*** (0.0017)	0.0044** (0.0019)	0.0053*** (0.0018)
BIND	-0.0978*** (0.0256)	-0.0924*** (0.0249)	-0.0780*** (0.0261)	-0.0722*** (0.0255)
BWOM	0.0044 (0.0044)	0.0018 (0.0044)	0.0040 (0.0046)	0.0014 (0.0045)
DUAL	-0.0152** (0.0069)	-0.0148** (0.0069)	-0.0017** (0.0079)	-0.0017** (0.0069)
LEVE			0.0001 (0.0004)	0.0001 (0.0004)
AGEF			0.0003** (0.0001)	0.0003** (0.0001)
BMEET			0.0024*** (0.0005)	0.0022*** (0.0005)
CONS			0.0009*** (0.0001)	0.0008*** (0.0001)
BIG4			0.0223*** (0.0074)	0.0213*** (0.0073)
ROA			0.0002 (0.0013)	-0.0001 (0.0013)
FS			0.0005 (0.0006)	0.0004 (0.0004)
Constant	0.5319*** (0.0142)	0.4759*** (0.01811)	0.4389*** (0.0258)	0.3753*** (0.0281)
F-Statistic	10.51***	13.68***	12.29***	14.30***
R Squared	0.0141	0.0783	0.0457	0.1065
Obs.	2634.00	2634.00	2634.00	2634.00
Year Dummy	No	Yes	No	Yes
Industry Dummy	No	Yes	No	Yes

Note: \*sig. at 10%, \*\*sig. at 5%, and \*\*\*sig. at 1%

The greater the number of independent board members, the better the company's ability to provide better corporate governance to shareholders. The level of ICD of sample companies is statistically significant and inversely associated to board independence. As a result, it is incompatible with H2. This finding is in line with the findings of Barako et al. (2006), who found a negative and important association between board independence and the degree of ICD. The reason for this result is that in Indonesia, directors who are said to be "independent" are not truly independent and often fail to disclose because they still have family with companies or political connections to state-owned companies. Moreover, this is achievable due to Indonesia's lax corporate governance practices. There is no necessity for firms to publish their corporate governance conditions and structures, particularly those relating to the board of commissioners' responsibilities and independence. Additionally, while the Indonesian Stock Exchange regulates the number of independent commissioners, there is no process in place for

shareholders to choose independent commissioners, implying that even though the board of commissioners exists, their appointment is unknown. Such circumstances continue to develop options for several parties to engage in political collusion, one of which is the appointment of independent commissioners who retain familial ties to the company's directors. This will significantly undermine the application of corporate governance, as the presence of insider transactions and fraud will deteriorate corporate governance, which will have an effect on the disclosure of information required by transparency as a corporate governance principle.

This investigation further evaluated the impact of female board members on ICD extent and found a positive but insignificant result. In other words, this implies women on boards have no influence on ICD levels of sample firms. Therefore, H3 is not supported. A possible reason for such finding could be that women relatively discard risk more than men do, so women have a lower percentage on boards compared with men. Moreover, these findings suggest that the inclusion of a woman on the company's board of directors has not resulted in variations in perception and comprehension of board decisions. Women are said to have a cognitive style that focuses on harmony, and the capacity to promote knowledge transmission does not exist in Indonesian organizations. This also suggests that women continue to encounter a variety of obstacles when it comes to sharing information.

Finally, the CEO Duality variable (DUAL) is significant at the 5% level. The negative coefficient shows bigger firms reveal higher IC information, therefore supporting H4. The findings affirm empirical proof regarding voluntary disclosure (e.g. Gul & Leung, 2004; Cerbioni & Parbonetti, 2007 and Nadeem, 2020). Furthermore, these results indicate that the CEO duality is able to erode independence of board and interfere with supervision and governance functions, therefore causing concentration of decision-making power and reducing voluntary disclosure of information. Turning to the control variables, we found Board Meeting (BMEET), Age of Firm (AGEF), Ownership Concentration (CONS) and Type of Auditor (BIG4) substantially and positively impacts disclosure of intellectual capital. This result is in line with expectations and is also aligned with the results of earlier investigations by Tejedo-Romero, et al. (2017); Martins et al., (2016) and Nadeem (2020).

This segment tested the main findings' robustness using three methods. First, according to Nadeem (2020), two probably endogeneity sources exist in this research comprising self-selection prejudice and omitted variables. Therefore, Arellano & Bond (1991) and Blundell & Bond (1998) study was applied to handle the endogeneity concern, while an alternative estimation of the generalized method of moments (GMM) is utilized. We found consistent results especially for board independence variable as it is presented in Table 5.

**Table 5:** Board Structure and ICD (GMM Method)

Explanatory Variables	ICD (Dependent Variable)
IC (-1)	-0.1752*** (0.0210)
BSIZE	-0.0020 (0.0025)
BIND	-0.0457* (0.0250)
BWOM	-0.0095* (0.0091)
DUAL	-0.0015 (0.0099)
Constant	No
Control	Yes
AR(1)	0.0000
AR(2)	0.3437
Sargan test	507.20

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**Commented [J37]:** 4. Please discuss the findings in more detail in the Discussion section and indicate the importance of these findings

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Note: \*sig. at 10%, \*\*sig. at 5%, and \*\*\*sig. at 1%

Second, this research employed ICD levels for the listed diverse intellectual capital groups comprising ICC/Internal Capital Categories, ECC/ External Capital Categories, and HCC/ Human Capital Categories in accordance with Muttakin et al., (2015) as reported Table 6. These robustness tests, as predicted, confirm our key findings to indicate a substantial association between Board Size, Board Independence, Female Board Members, CEO Dichotomy and ICD.

**Table 6:** Board Structure on Different Types of ICD

Explanatory Variables	ICC	ECC	HCC
	(1)	(2)	(3)
BSIZE	0.0071*** (0.0023)	0.0050** (0.0023)	0.0044* (0.0024)
BIND	-0.0722** (0.0347)	0.0023 (0.0340)	-0.1290*** (0.0323)
BWOM	-0.0146** (0.0066)	-0.0122** (0.0061)	0.0189*** (0.0052)
DUAL	-0.0228** (0.0095)	-0.0318*** (0.0088)	-0.0237*** (0.0086)
Constant	Yes	Yes	Yes
F-Statistic	9.93***	8.38***	11.66***
R Squared	0.0859	0.0629	0.0872
Control Variables	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes
Obs.	2634	2634	2634

Note: \*sig. at 10%, \*\*sig. at 5%, and \*\*\*sig. at 1%

Finally, in accordance with Nadeem (2020), we divided our sample into two categories, low and high ICD firms, to check the primary findings' robustness as Table 7 shows. Furthermore, the study findings indicate a consistent association between ICD and board structure concerning results baseline in low ICD companies.

**Table 7:** Board Structure and ICD; High ICD vs Low ICD

Explanatory Variables	ICD (Dependent Variable)	
	High ICD	Low ICD
	(1)	(2)
BSIZE	0.0047** (0.0021)	0.0057*** (0.0016)
BIND	-0.0438 (0.0281)	-0.0252 (0.0243)
BWOM	-0.0027 (0.0056)	0.0161*** (0.0040)
DUAL	-0.0066 (0.0072)	-0.0111** (0.0067)
Constant	Yes	Yes
F-Statistic	10.18***	8.40***
R Squared	0.1669	0.1269
Control	Yes	Yes
Year Dummy	Yes	Yes
Industry Dummy	Yes	Yes
Obs	1306	1328

Note: \*sig. at 10%, \*\*sig. at 5%, and \*\*\*sig. at 1%

## 6. CONCLUSION

The analysis of voluntary information disclosure is relatively recent, and there are many explanations why businesses reveal information voluntarily, including the disclosure of intellectual resources. The purpose of this study is to look into the impact of board structure on ICD in Indonesia, including board size, board independence, female board members, and the CEO dichotomy. A sample comprising 323 non-finance companies in 7 industries listed publicly from 2008 to 2017 on the Indonesia stock exchanges was analyzed. The results of the study found that the board structure plays a role in influencing the ICD. First, the influence of board structure hypothesized factors was investigated in this study. The BSIZE (Board Size) coefficient was shown to be positive and significant in this study, suggesting that a larger total number of board members resulted in a higher degree of ICD, therefore confirming H1. These findings endorse agency theory that the quality of decision making, represent stakeholders' interests, and reduce the CEO's dominance. Second, the level of ICD of sample companies is statistically significant and inversely associated to board independence. As a result, it is incompatible with H2. The reason for this result is that in Indonesia, directors who are said to be "independent" are not truly independent and often fail to disclose because they still have family with companies or political connections to state-owned companies. This will considerably impair corporate governance's application, as the prevalence of insider transactions and fraud will deteriorate corporate governance, impairing the disclosure of information required by transparency as a corporate governance principle. Third, female board members on the extent of ICD and discovered a positive but insignificant effect. In other words, evidence demonstrates that women on boards of directors had no effect on the ICD levels of sample firms. As a result, H3 is not supported. Women may discard risk more than males, resulting in a smaller percentage of women on boards. Moreover, the presence of a woman on the board of directors has not altered perceptions or comprehension of board decisions. Women are thought to have a harmonious cognitive style, and Indonesian organizations lack the potential to foster information transmission. This shows that women still face challenges in sharing knowledge. Fourth, CEO duality was revealed as significantly and negatively connected with ICD levels statistically. These findings indicate that the CEO duality is capable of undermining the board's independence and interfering with monitoring and governance tasks, resulting in decision-making power concentration and less voluntary sharing of information. Overall, the results survived consistent robustness tests, comprising alternative ICD measures involving endogeneity concerns, different groups and diverse sub samples.

The research outcome over certain particular policy consequences. First, the total results indicate board size possibly impacted ICD levels positively and CEO duality was revealed as significantly and negatively connected with ICD levels statistically. These results provide positive capital market regulators implications of board structure in Indonesia. In this sense, this finding endorses agency theory that increasing the number of board sizes not only increases information disclosure but also reduces agency problems. For regulators, this study also endorses the quality of decision making, represent stakeholders' interests, and reduce the CEO's dominance from large board size and CEO duality. Second, being capital market regulators, IDX is capable of employing the findings in this research to facilitate higher intellectual capital awareness and promote Indonesia's ICD implementation. Due to the limited data reports and differences in the characteristics of the financial and non-financial industries, the financial industry is not included in the focus of the research. As a result, future studies may look into ICD in financial industry. Second, changes in the IASC and IFRS occurred throughout the research period, affecting disclosures and the structure of some assets and liabilities. This has an evident impact on the Financial Statements for the periods under consideration. As a result, future study may take into account changes in the International Accounting Standard Committee (IASC) and International Financial Reporting Standard (IFRS) while evaluating ICD.

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**Commented [J310]:** 6. The primary theoretical and practical significance of the study should be added to the Conclusion.

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