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# An Analysis of the Scope Variations in Intellectual Capital Disclosure: Perspectives of Indonesian State Universities

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## Abstract:

**Research aims**: This study aims to examine and analyze the differences in intellectual capital disclosure between Indonesian state universities.

**Design/Methodology/Approach**: The data comprises all state universities listed in 4ICU (4 International Colleges University) in 2020. To analyze the data, the researchers used content analysis and the independent sample t-test. This study used three indicators (location, number of applicants, and number of study programs) to analyze the differences in intellectual capital disclosure between state universities in Indonesia.

**Research findings**: The study results show scope variation in intellectual capital disclosure based on location and number of applicants. However, based on the number of study programs, no variation was found.

**Theoretical contribution/Originality**: The scope variation in intellectual capital disclosure between Indonesian state universities, especially regarding the indicators such as study programs and locations, is a rare topic of study. It is compelling and requires further study.

**Practitioner/Policy implication**: This study is potentially relevant to academicians, researchers, and stakeholders. By analyzing the scope variation in intellectual capital disclosure between Indonesian state universities using three indicators, this study provides insight on the importance of delivering information about universities to the public to improve credibility and attract more applicants.

**Keywords**: Intellectual Capital Disclosure; Location; Number of Applicants; Number of Study Programs

# Introduction

Nowadays, education development constrains universities to bring out the best innovation in providing educational service (Sopandi & Saud, 2016). Maintaining institutional appeal is crucial in competition among universities. What a state university can offer is still a significant aspect for prospective students in Indonesia. According to the official website of the Indonesian State University Entrance Test (SBMPTN), the number of applicants slightly decreased (0.01%) from 714.652 in 2019 to 702.927 in 2020. However, many universities keep improving their quality of education.

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Deegan, Rankin, and Voght (2000) stated that according to stakeholder theory, an organization would voluntarily disclose the information of its environmental, social, and intellectual performance beyond its obligation to fulfil the stakeholders' expectation. It will attempt to provide information relevant to stakeholders' demands to attract public interest.

Secundo, Lombardi, and Dumay (2018) explained that universities in developing countries strive to upgrade their ratings and quality to attract applicants. Therefore, Indonesian universities will try to boost their competitiveness in many ways, including intangible assets. The intangible assets of a university must impart various information to satisfy the recipients (Córcoles, Peñalver, & Ponce, 2011). For prospective students, selecting an appropriate university is essential. A university with a convivial research atmosphere and supports by all elements within can improve the quality of expertise required by students for their future careers (Cricelli et al., 2018). Moreover, networking with external parties can enhance a university's credibility and enticement (Di Berardino & Corsi, 2018).

Intangible assets and intellectual capital have been crucial issues for academicians, government, regulators, companies, investors, and stakeholders (Ulum, 2015). Since the 1990s, various studies on these themes have been conducted. Currently, the discourses on intellectual capital have developed exclusively in companies or private organizations and non-profit organizations (public sector) such as universities. The goal is to develop the production and distribution of knowledge.

The indicator system of intellectual capital disclosure in a university consists of three main objects: human capital, structural capital, and relational capital; therefore, the subindicator is customizable according to the objective conditions (Ramírez, Ponce, & González, 2013). Two essential concepts can be applied: the conceptual framework of intellectual capital measurement to improve a university's internal management and the intellectual capital report that can improve transparency (Cañibano & Sanchez, 2008). Nevertheless, the practice of intellectual capital disclosure has not been relatively established yet due to the universities' lack of awareness of its significance (Bratianu, 2014; Marr, Gray, & Neely, 2003).

A study conducted by Silvestri and Veltri (2012) regarding the differences in intellectual capital reports between the Autonomous University of Madrid (UAM) and Austrian Universities showed differences in indicator model of intellectual capital measurement between the universities. Another study conducted by Córcoles et al. (2011) regarding the correlation between intellectual capital disclosure within universities in Spain and the information required by the stakeholders discovered that intellectual capital as the element of intangible assets should be available to satisfy the information recipients. The business organization, public administration institutions, and students highly demand the universities provide transparent, accountable, and relevant information. Meanwhile, a study conducted by Cuozzo et al. (2017) reported that from 2000 to 2017, 246 articles published by ten top-tier journals (JIC, JHRCA, AAR, AAAJ, AF, BAR, AOS, CPA, EAR, and MAR) revealed that the intellectual capital disclosures had received

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several criticisms. This study is perceived as less innovative since most of the results were based on annual financial reports.

Based on these previous studies, the researchers are intrigued to investigate the differences in intellectual capital disclosure between 4ICU-listed Indonesian state universities. The universities can use the three indicators (location, number of applicants, and number of study programs) to disclose their intellectual capital. In addition, different locations generate different methods to present information on the disclosure.

Meanwhile, based on the Indonesian Ministry of Research, Technology, and Higher Education data, the number of university applications is increasing. The most-wanted universities always have enticement and competitiveness. Moreover, the number of study programs also affects the scope variation of intellectual capital disclosure since students nowadays seem to be more selective to decide which study program, they will enroll in that will influence their future career. Therefore, universities should gain a competitive advantage in recruiting students and obtain funding (Mirfani, Sutarsih, & Rosalin, 2012).

Consequently, intellectual capital disclosure is critical to increasing the number of students, and the three indicators become the measurement to disclose the intellectual capital in universities. 4ICU (4 International Colleges University) is a search engine or directory that rates the websites of 11.307 accredited universities in 200 countries. It is applicable due to the required data visibility.

This study contributes in two ways. Firstly, it may support the stakeholder theory. The theory states that an organization will voluntarily disclose its environmental, social, and intellectual performance beyond its obligation to fulfil the stakeholders' expectations. Universities can use their information of intellectual capital to attract prospective students. In other words, stakeholders become more convinced of universities that can manage their intellectual capital feasibly. This study may also provide empirical evidence regarding the scope variation in intellectual capital disclosure based on location, number of applicants, and number of study programs in each university and become a reference for the stakeholders in the academic field about the importance of information disclosure for increasing the credibility of a state university and mainly attracting more applicants.

# Literature Review and Hypotheses Development

# Stakeholder Theory

According to Fontaine et al. (2006), stakeholder theory is organizational management used to execute substantial activities and disclose them to the stakeholders. This theory states that an organization will voluntarily disclose its environmental, social, and intellectual performance beyond its obligation to fulfil the stakeholders' expectations. It

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also explains that stakeholders require information about their rights to use it to consider making a decision (Deegan, 2004). Ethically, in stakeholder theory, all stakeholders are entitled to be treated fairly by the organization and the managers are obliged to run the organization for the stakeholders' benefits (Deegan, 2004). Managerially, the stakeholders are authorized to control the corporation's managing resources (Watts & Zimmerman, 1990). If the management can control the resources, an organization will focus on welfare (Ghozali & Chariri, 2007).

In the context of scope variation in intellectual capital disclosure, the stakeholders have the right to obtain information about the management of a university (Deegan, 2004). A university's management requires good and comprehensive governance by using all of its potentials, such as human capital, physical capital, and structural capital, to create added value disclosed in an accountability report (Ulum, 2009). The provision of intellectual capital information will become a university's competitiveness. in other words, a well-managed university that attracts more applicants will earn more trust from the stakeholders. Applicants' interest depends on how broad the institution imparts the transparency of information.

## Intellectual Capital in Universities

Mouritsen, Nikolaj Bukh, and Marr (2004) defined intellectual capital as a medium to convey information to a manager or investor regarding resources and create value in the future. Bontis, Chua Chong Keow, and Richardson (2000) stated that in general, researchers classify three main components of intellectual capital: human capital (insight regarding employees), structural capital (insight regarding customers, such as relations with customers and suppliers), and customer capital (insight regarding a company, such as patents and copyrights). From this classification, three schemes are primarily used in research. These schemes are proposed by Stewart and Ruckdeschel (1998) and Edvinsson and Malone (1997). Mouritsen, Larsen, and Bukh (2001) stated that an organization's financial statement incorporating capital intellectual capital disclosure shows credible, integrated, true, and fair performance. Furthermore, intellectual capital disclosure effectively signals excellence for gaining future wealth (Petty & Guthrie, 2000; Leitner, 2004).

Intellectual capital is essential to gain organizational competitive advantage and capacity to create value (Sudarsanam, Sorwar, & Marr, 2003). In an actual knowledge-based economy, an intangible asset is an essential element to create value and obtain the economic wealth of an organization. Consequently, the measurement and management of intellectual capital get more critical (Veltri, Mastroleo, & Schaffhauser-Linzatti, 2014). Despite being initially designed as a framework to analyze the contribution of intellectual resources in non-profit business, the concept of intellectual capital has been taken over by public and non-profit organizations (Mouritsen et al., 2004; Kong & Prior, 2007). Presently, there is an increasing trend in universities' intellectual capital approach to generate and distribute knowledge and invest in research and human resources (Ramírez et al., 2013). Universities are getting acknowledged as contributing to the

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global economy. As a result, many supranational organizations promote intellectual capital management in universities (Silvestri & Veltri, 2012).

In the university context, human capital comprises the leading researchers and staff of a university; organizational capital comprises the routine proses and management in a university; while relational capital comprises the relation and networking in a university (Leitner, 2004). Developing an intellectual capital measurement model for a university can bring both internal and external positive effects, such as raising the university's ranking, detecting the university's strengths and weaknesses to reallocate resources, and affecting the government's policy (Silvestri & Veltri, 2012). Some literature show that intellectual capital serves as an essential part in an organization's performance (Pulic, 2002; Bollen, Vergauwen, & Schnieders, 2005; Pew Tan, Plowman, & Hancock, 2007; Chang, Chen, & Lai, 2008) and it potentially affects educational organizations (Martínez-Torres, 2006; Ramírez, Lorduy, & Rojas, 2007; Jones, Meadow, & Sicilia, 2009; Martínez-Córcoles et al., 2012; Martínez-Córcoles et al., 2013).

A comparative study conducted by Ulum, Malik, and Sofyani (2019) about the intellectual capital disclosure between Indonesian and Malaysian universities discovered differences in disclosing intellectual capital between universities in both countries. Only 50% of the universities disclosed their intellectual capital via the website. Furthermore, another study conducted by Manes Rossi, Nicolò, and Tartaglia Polcini (2018) regarding online intellectual capital disclosure in Italian universities discovered that most of the disclosures comprised human capital and internal capital and only limited exploration on external capital. In addition, online internationality and visibility positively affect the degree of intellectual capital disclosure in universities. The disclosure model is considered to increase accountability and fulfil the stakeholders' need for information.

# Hypotheses Development

The stakeholder theory proposes that an organization, in this case, a university, will strive to provide information that can increase its value for the stakeholders through accountability reports (Guthrie et al., 2004). The information may be idiosyncratic, depends on the organization's objectives and characteristics. The organization's management also should conduct significant activities and report them to the stakeholders. A university's management should make the most of its resources, such as human capital, physical capital, and structural capital, to create added value disclosed in an accountability report (Wernerfelt, 1995). All the relevant information required by the stakeholders to attract prospective students should be available. Generally, a university that can disclose information by using its intellectual capital will receive positive responses from the public, indicated by the number of its applicants (Joeliaty, 2017). Gallego-Álvarez et al. (2011) emphasized that universities with more faculty tend to disclose further information regarding their websites than those with fewer faculty.

A study conducted by Bornemann and Leitner (2002) showed that European universities are challenged with a political agenda of aligning the national university system. In many European countries, universities are granted greater autonomy regarding the

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organization, management, and budget allocation that require new management and reporting system. Since publicly funded, universities should be more transparent and accountable. The study also discovered that intellectual capital disclosure is an instrument to produce and foster an organization's culture and norms and encourage communal assurance and interpretation. In addition, a study conducted by Silvestri and Veltri (2011) regarding the differences in intellectual capital reports between the Autonomous University of Madrid (UAM) and Austrian Universities revealed differences in the indicator model of intellectual capital measurement between the universities. While the Austrian universities' disclosures lacked qualitative indicators, the UAM's disclosure lacked efficiency and activity indicators.

Based on the explanations above, the following are the hypotheses of the study:

 $H_1$ : There are scope variation in intellectual capital disclosure between Indonesian state universities based on location.

*H*<sub>2</sub>:There are scope variation in intellectual capital disclosure between Indonesian state universities based on the number of applicants.

 $H_3$ : There are scope variation in intellectual capital disclosure between Indonesian state universities based on the number of study programs.

# **Research Method**

# Study Type and Data

This study is a comparative study aiming to compare variables. The data used in this study are the secondary data from each university's official website, the number of Indonesian State University Entrance Test (SBMPTN) applicants, and the number of study programs. Meanwhile, the data sources were the official website of Indonesian state universities and the Indonesian State University Entrance Test (SBMPTN) website in 2020. The data were collected through documentation. The researchers obtained the data from the official websites of sampled state universities.

# Population and Sampling Technique

The population in this study covers all the Indonesian state universities listed in 4ICU in 2020. The samples were gathered purposively with specific criteria, such as (1) state universities listed in 4ICU in 2020, (2) official website of the state universities accessible during the study, (3) detailed profiles, and (4) data regarding state university applicants in 2020. Of 86 Indonesian state universities listed in 4ICU in 2020, 44 were selected as samples.

The comparative analysis used in this study is the scope variation in the intellectual capital disclosure based on the indicator of location, number of applicants, and number

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of study programs. For the location indicator, this study divides the location into universities located on Java Island and universities located outside of Java Island. For the indicator of the number of applicants, this study covers universities with more than 35.000 applicants and universities with fewer applicants. The number was determined since it is the average value of 44 sample universities. Thus, the standard value is used to analyze the degree of interest. For the indicator of the number of study programs, this study divides universities with more than 45 study programs from universities with fewer study programs. The number was taken since it is the average value of 44 sample universities is the average value of 44 sample universities with fewer study programs. The number was taken since it is the average value of 44 sample universities. Thus, the standard value is used to categorize universities based on the number of study programs.

## **Operational Definition and Variable Measurement**

The variable in this study is the scope variation in intellectual capital disclosure measured by content analysis technique. The disclosures are scored based on the projection using the five-way numerical coding system ("0" if the item is not stated, "1" if the item is disclosed narratively, "2" if the item is disclosed numerically, "3" if the item is disclosed monetarily, and "4" if the item is disclosed graphically). The analysis units used are the official websites and intellectual capital components of a university, as constructed by Ulum (2012):

Description	Item Type					
Human	Number of Full-Time Professors					
Capital	Number and Type of Research					
(8 items)	. Number of Permanent Lecturer					
	4. Number of Non-Permanent Lecturers (Guest Lecturer, Adjunct Lecturer,					
	Expert Lecturer)					
	Lecturer Achievement (Award, Grant, Program Funding)					
	Lecturer Qualification (Number of Function)					
	Academic Lecturer Competence (Number of Bachelor, Master, and Doctor)					
	Number of Non-Academic Staff (Librarian, Lab Technician, Technician)					
Structural	Investment in Electronic Media Library					
Capital	Licensing Revenue					
(23 items)	Number of Licenses					
	Laboratory Measurement and Service					
	Vision of Study Program					
	Mission of Study Program					
	Goal and Objective					
	Delivery Strategy					
	Technology Used in Learning					
	. Syllabus and Lesson Plan					
	. Learning Technique					
	. Learning Facilities, Infrastructure, and Funding					
Source: Ulum	012)					

## **Table 1** Items of Intellectual Capital Disclosure

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Description	Item Type
Structural	13. Learning Evaluation System (Student-Lecturer Attendance)
Capital	14. Academic Advisory System
(23 items)	15. Average Study Duration
	16. Number of Lecturer Per Student
	17. Drop-out Ratio
	18. Average Student Per Advisory Lecturer
	19. Average Number of Meeting/Advisory Lecturer
	20. Academic Qualification of Advisory Lecturer
	21. Provision of Final Project Guideline
	22. Time Allotment of Final Project
	23. Number of Graduates
Relational	1. Number of Third-Party Research by Overseas Funding
capital	2. Number of Third-Party Research by the Indonesian Directorate General of
(15 items)	Higher Education
	3. International Scientist in Higher Education
	4. Number of Conference
	5. Research/Community Service
	6. Scientific Publication in International Journal
	7. Scientific Publication in Journal of A-Accredited Organization
	8. Scientific Publication in Local Journal
	9. Website Hits
	10. E-Learning
	11. Number of Academic Achievement and Reputation, Student Interest, and
	Student Talent
	12. Student Service
	13. Graduate Service and Assistance
	14. Graduate Data Recording
	15. Graduate Engagement in Academic Development

Table 1 Items of Intellectual Capital Disclosure (cont')

Source: Ulum (2012)

### **Data Analysis**

There are three alternatives to data analysis. In the first alternative, if the data are normal and homogenous, the independent sample t-test is applicable with the steps of formulating the hypothesis of testing the similarity of the average value (H0: there is no scope variation of intellectual capital disclosure between Indonesian state universities; H<sub>1</sub>: there are scope variation in intellectual capital disclosure between Indonesian state universities). in the second alternative, the significance value in the independent sample t-test can be identified using the significance level of 5% or ( $\alpha = 0.05$ ). In the criteria of decision making, if the significance value  $\geq 0.05$ , then the H0 is acceptable. If the significance value  $\leq 0.05$ , then the H0 is rejected. When the data of the two comparisons are normal but not homogeneous, the independent sample t-test is also applicable. In the third alternative, if one or both of the comparisons does/do not normally distribute, instead of homogeneity test, non-parametric statistical test with Mann- Whitney test on SPSS 25 is more applicable.

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# **Result and Discussion**

The comparative analysis used in this study compares scope variation in intellectual capital disclosure based on location, number of applicants, and number of study programs, with the following results.



Figure 1 Location Distribution of Research Samples

Figure 1 describes the information of samples' location in this study. The objects of the study are 44 Indonesian state universities listed in 4ICU. The location that has the most samples (9 universities) is the province of East Java, followed by Central Java (8 universities) and West Java (6 universities). Only a few universities outside Java island are used as samples. In conclusion, since state universities in Java provinces have better facilities and infrastructures than those in other provinces, most people tend to pursue higher education on the island.



Figure 2 The Percentage of Intellectual Capital Items Disclosure in Indonesian State Universities

Figure 2 shows that the majority of intellectual capital items, primarily relational capital, is disclosed narratively. Relational capital associates with research and community service in universities. The research and community service item is the most disclosed point of intellectual capital, shown by the data analysis results indicating that all state universities disclose the item. Another significant point is the number of graduates, in

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which all samples also disclose it. The purpose of disclosing the number of graduates is to provide a clear description of how successful a university is in preparing graduates to contribute to society. In addition, the item of achievement becomes the most favorite item to disclose. It shows to the public all the universities' achievements. It is certainly good to improve the positive image of the universities. However, very few universities disclose the item of drop-out ratio and the item of the number of lecturers per student.

Generally, it is reported that there are still many items of intellectual capital that have not been disclosed by the universities yet (37% of the total disclosure). Even though 63% of the intellectual capital are disclosed, 42% of it is disclosed narratively. It seems that this method of disclosure is preferred due to the convenience of target readers.



Figure 3 The Percentage of Intellectual Capital Disclosure

Figure 3 explains the percentage of intellectual capital disclosure based on human capital, structural capital, and relational capital. In general, all the universities disclose 17.4% of their human capital, 42.8% of their structural capital, and 16.8% of their relational capital. The human capital disclosure gets the most considerable portion during this study since the universities have disclosed students' activities comprising the visions and missions of the study programs and the numbers of graduates narratively. The universities have provided adequate information regarding the main components of their intellectual capital.

Moreover, the second-highest percentage of intellectual capital disclosure is human capital. The disclosure of human resources is crucial for state universities. However, the lack of human capital disclosure, as described in Figure 3, shows that the universities disregard the importance of their human resources. In general, the item that scored "0" (undisclosed) is the number of full-time professors due to the unavailability of information on such item on websites.

Meanwhile, the lowest percentage of disclosure is relational capital. On average, the universities have disclosed the items of scientific publication in international journals,

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scientific publication in local journals, and scientific publication in accredited journals. However, they have not disclosed the items such as the number of third-party research by the Indonesian Directorate General of Higher Education, the international scientists in higher education, and website hits. This low percentage of disclosure is presumably due to the lack of coordination between the universities and the stakeholders.

## The Independent Sample T-Test

Table 2 The Summary of The Independent Sample T-Test

Hypothesis	Sig.	Sig	Description
		(2-tailed)	
H <sub>1</sub> : There are scope variation in intellectual capital disclosure between Indonesian state universities based on locations.	0.043	0.009	Supported
H <sub>2</sub> : There are scope variation in intellectual capital disclosure between Indonesian state universities based on the number of applicants.	0.178	0.011	Supported
H <sub>3</sub> : There are scope variation in intellectual capital disclosure between Indonesian state universities based on the number of study programs.	0.135	0.105	Not Supported

Based on the normality test using Kolmogorov Smirnov, all three indicators have values above 0.05, and thus the data are distributed normally. Meanwhile, the homogeneity test results show that the indicators demonstrate different significance values (0.043, 0.178, and 0.135).

The indicator of location is not homogenous, and the independent sample t-test shows the sig value of 0.009, indicating that the value is lower than 0.05. In conclusion, H0 is rejected, and H<sub>1</sub> is accepted. It shows scope variations in intellectual capital disclosure between state universities located on Java island and state universities outside the island. Moreover, the indicator of the number of applicants shows homogenous data, and the independent sample t-test shows the sig value of 0.011. In conclusion, H0 is rejected, and H<sub>1</sub> is accepted. It shows scope variations in intellectual capital disclosure between state universities with more than 35.0000 applicants and state universities with fewer applicants. Furthermore, the indicator of the number of study programs demonstrates a significance value higher than 0.05 and thus is homogenous. The independent sample t-test shows the sig value (2-tailed) of 0.105, indicating that H0 is accepted and H<sub>1</sub> is rejected. Therefore, there is no scope variation of intellectual capital disclosure between state universities with more than 45 study programs and universities with fewer study programs.

# Discussion

The hypotheses test results demonstrate that two of the three indicators show variations in disclosing intellectual capital. The first hypothesis is accepted since there are scope variation in disclosure between state universities in Java island and state universities in other areas. The second hypothesis is also accepted since there are scope

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variation in disclosure between state universities with more than 35.000 applicants and state universities with fewer applicants. This finding shows that the state universities with more applicants tend to disclose their intellectual capital. The higher the number of applicants, the more considerable the efforts taken by the universities to provide relevant information to the stakeholders. Meanwhile, the third hypothesis shows no scope variation of disclosure between state universities with more than 45 study programs and state universities with fewer study programs. It means that the third hypothesis is rejected.

The results of this study are relevant to the stakeholder theory proposing that an organization must provide relevant information to the stakeholders. More detailed information will affect the public interest in higher education. Establishing good relations with stakeholders determines the success of attracting prospective students, primarily through intellectual capital disclosure. It encourages the scope of variations in disclosing intellectual capital based on objectives.

This study is supported by data of intellectual capital disclosed by Indonesian state universities. The universities that disclose detailed information of intellectual capital gain a high number of applicants. Conversely, universities with a lack of disclosure tend to gain a lower number. For example, the University of Padjajaran that disclosed 82.61% items of intellectual capital has gained 113.542 applicants and the University of Indonesia that disclosed 76% of intellectual capital had gained 97.382 applicants. Inversely proportional, the University of Trunojoyo that disclosed only 50% of items of intellectual capital has gained 12.562 applicants.

The results of this study are in line with the results of the study conducted by Wiwitan and Yulianita (2017), who stated that public relation affects the motivation of prospective students to pursue higher education. In addition, a study by Kok (2017) revealed that human capital, structural capital, and relational capital are significant in the program of intellectual management of higher education. While the skills and expertise of the university staff are parts of human capital, innovation and intellectual property rights are parts of structural capital. Students and stakeholders become essential. Moreover, Córcoles et al. (2011) found that capital intellectual as an intangible asset must be provided to satisfy the information users. This study discovers that the stakeholders, such as business organizations, public administration institutions, and students, require information transparency and accountability from universities relevant to the stakeholders' demands. It signifies the importance of information for the stakeholders to deliver positive feedbacks to the universities. Therefore, this study is potentially relevant to the academic stakeholders regarding the importance of delivering university information to the public to improve credibility and attract more applicants.

# Conclusion

This study aims to examine and analyze the differences in intellectual capital disclosure between Indonesian universities using the indicators of location, number of applicants,

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and number of study programs. Based on the discussion, two of the three indicators (locations and number of applicants) show variations in disclosing intellectual capital. There is no scope of variations of the disclosure regarding the number of study programs. The results of this study are relevant to the stakeholder theory proposing that an organization must establish a positive image by showing good performance to gain positive feedback from the stakeholders. The theory also states that the stakeholders are entitled to information on how the organization's activities affect them. This situation is relevant to the intellectual capital disclosed by universities. More detailed information will increase public interest in higher education.

Moreover, the content analysis results revealed that of the 64% intellectual capital disclosure in Indonesian state universities, 42% is disclosed narratively, and the rest is in graphics and numbers. Most of the narratively disclosed items, such as the number of research and community service, are from the relational capital (reaching 60%). Meanwhile, 37% of items of intellectual capital are not disclosed by 42 universities. This percentage is distributed evenly among human capital, structural capital, and relational capital.

Furthermore, this study is potentially relevant to academicians, researchers, and stakeholders. By examining the scope variation in intellectual capital, it is expected that this study can provide empirical evidence regarding the scope variation in intellectual capital disclosure based on location, number of applicants, and number of study programs in each university and become a reference for the stakeholders in the academic field about the importance of information disclosure regarding the university to the public.

Eventually, this study has several limitations. Firstly, the literature discussing the correlation between intellectual capital disclosure and prospective students' interest is scarce, especially in Indonesia. Secondly, not all state universities provide up-to-date information regarding the number of applicants. Therefore, further researchers are suggested to add other variables relevant to prospective students' interests and increase the duration of data collection to obtain better and more accurate results.

# References

- Bollen, L., Vergauwen, P., & Schnieders, S. (2005). Linking intellectual capital and intellectual property to company performance. *Management Decision*, 43(9), 1161–1185. <u>https://doi.org/10.1108/00251740510626254</u>
- Bontis, N., Chua Chong Keow, W., & Richardson, S. (2000). Intellectual capital and business performance in Malaysian industries. *Journal of Intellectual Capital, 1*(1), 85–100. <u>https://doi.org/10.1108/14691930010324188</u>
- Bornemann, M., & Leitner, K. H. (2002). Measuring and reporting intellectual capital: The case of a research technology organization. *Singapore Management Review*, *3*, 7–19.
- Bratianu, C. (2014). Intellectual capital of the European universities. Advances in Higher Education and Professional Development, 24-43. <u>https://doi.org/10.4018/978-1-4666-5998-8.ch002</u>

### Juanda, Setyawan, Irawan, & Inata An Analysis of the Scope Variations in Intellectual Capital Disclosure: ...

- Cañibano, M.L., & Sanchez, P. (2008). Intellectual capital management and reporting in universities and research institutions. *Estudios de Economía Aplicada*, 26(2), 7-25. Retrieved from: <u>https://www.redalvc.org/articulo.oa?id=30113187001</u>
- Chang, S., Chen, S., & Lai, J. (2008). The effect of alliance experience and intellectual capital on the value creation of international strategic alliances. *Omega*, *36*(2), 298–316. <u>https://doi.org/10.1016/j.omega.2006.06.010</u>
- Córcoles, Y. R., Peñalver, J. F. S., & Ponce, Á. T. (2011). Intellectual capital in Spanish public universities: Stakeholders' information needs. *Journal of Intellectual Capital*, 12(3), 356–376. <u>https://doi.org/10.1108/14691931111154689</u>
- Cricelli, L., Greco, M., Grimaldi, M., & Llanes Dueñas, L. P. (2018). Intellectual capital and university performance in emerging countries. *Journal of Intellectual Capital*, 19(1), 71–95. <u>https://doi.org/10.1108/jic-02-2017-0037</u>
- Cuozzo, B., Dumay, J., Palmaccio, M., & Lombardi, R. (2017). Intellectual capital disclosure: a structured literature review. *Journal of Intellectual Capital, 18*(1), 9–28. <u>https://doi.org/10.1108/jic-10-2016-0104</u>
- Deegan, C. (2004). Financial accounting theory. New South Wales: McGraw-Hill Australia.
- Deegan, C., Rankin, M., & Voght, P. (2000). Firms' disclosure reactions to major social incidents: Australian evidence. *Accounting Forum*, 24(1), 101–130. <u>https://doi.org/10.1111/1467-6303.00031</u>
- Di Berardino, D., & Corsi, C. (2018). A quality evaluation approach to disclosing third mission activities and intellectual capital in Italian universities. *Journal of Intellectual Capital, 19*(1), 178–201. https://doi.org/10.1108/jic-02-2017-0042
- Edvinsson, L., & Malone, S. M. (1997). Intellectual capital: Realizing your company's true value by finding its hidden brainpower. Harper Business.
- Fontaine, C., Dajoz, I., Meriguet, J., & Loreau, M. (2006). Functional diversity of plantpollinator interaction webs enhances the persistence of plant communities. *PLoS Biology*, 4(1), 0129–0135. <u>https://doi.org/10.1371/journal.pbio.0040001</u>
- Gallego-Álvarez, I., Rodríguez-Domínguez, L., & García-Sánchez, I. (2011). Information disclosed online by Spanish universities: Content and explanatory factors. *Online Information Review*, 35(3), 360-385. <u>https://doi.org/10.1108/1468452111151423</u>
- Ghozali, I. (2016). *Aplikasi analisis multivariete dengan program IBM SPSS 23*. Semarang: Badan Penerbit Universitas Diponegoro.
- Ghozali, I., & Chariri, A. (2007). *Teori akuntansi*. Semarang: Badan Penerbit Universitas Diponegoro.
- Guthrie, J. T., Wigfield, A., Barbosa, P., Perencevich, K. C., Taboada, A., Davis, M. H., ... Tonks, S. (2004). Increasing reading comprehension and engagement through concept-oriented reading instruction. *Journal of Educational Psychology*, 96(3), 403-423. <u>https://doi.org/10.1037/0022-0663.96.3.403</u>
- Joeliaty, J. (2017). Modal intelektual sebagai sumber keunggulan bersaing berbasis nilai (Carbv) (Studi pada program studi perguruan tinggi negeri di Bandung Jawa Barat). *Jurnal Muara Ilmu Ekonomi dan Bisnis, 1*(1), 26-35. https://doi.org/10.24912/jmieb.v1i1.403
- Jones, N., Meadow, C., & Sicilia, M.-A. (2009). Measuring intellectual capital in higher education. *Journal of Information & Knowledge Management, 8*(2), 113–136. <u>https://doi.org/10.1142/s0219649209002282</u>
- Kok, A. (2007). Intellectual capital management as part of knowledge management initiatives at institutions of higher learning. *Electronic Journal of Knowledge Management Volume*, 5(2), 181–192. Retrieved from <u>https://academic-</u> publishing.org/index.php/ejkm/article/view/771

An Analysis of the Scope Variations in Intellectual Capital Disclosure: ...

- Kong, E., & Prior, D. (2007). An intellectual capital perspective of competitive advantage in nonprofit organisations. *International Journal of Nonprofit and Voluntary Sector Marketing*, 13(2), 119–128. https://doi.org/10.1002/nvsm.315
- Leitner, K.-H. (2004). Intellectual capital reporting for universities: conceptual background and application for Austrian universities. *Research Evaluation*, *13*(2), 129–140. https://doi.org/10.3152/147154404781776464
- Manes Rossi, F., Nicolò, G., & Tartaglia Polcini, P. (2018). New trends in intellectual capital reporting: Exploring online intellectual capital disclosure in Italian universities. *Journal* of Intellectual Capital, 19(4), 814–835. <u>https://doi.org/10.1108/jic-09-2017-0119</u>
- Marr, B., Gray, D., & Neely, A. (2003). Why do firms measure their intellectual capital? *Journal of Intellectual Capital*, 4(4), 441–464. https://doi.org/10.1108/14691930310504509
- Martínez-Córcoles, M., Gracia, F. J., Tomás, I., Peiró, J. M., & Schöbel, M. (2013). Empowering team leadership and safety performance in nuclear power plants: A multilevel approach. Safety Science, 51(1), 293–301. <u>https://doi.org/10.1016/j.ssci.2012.08.001</u>
- Martínez-Córcoles, M., Schöbel, M., Gracia, F. J., Tomás, I., & Peiró, J. M. (2012). Linking empowering leadership to safety participation in nuclear power plants: A structural equation model. Journal of Safety Research, 43(3), 215–221. <u>https://doi.org/10.1016/j.jsr.2012.07.002</u>
- Martínez-Torres, M. R. (2006). A procedure to design a structural and measurement model of Intellectual Capital: An exploratory study. *Information & Management*, 43(5), 617–626. <u>https://doi.org/10.1016/j.im.2006.03.002</u>
- Mirfani, A. M., Sutarsih, C., & Rosalin, E. (2012). Strategi dan hasil kompetisi perguruan tinggi. Jurnal Administrasi Pendidikan, 14(1), 182–197. Retrieved from <u>https://ejournal.upi.edu/index.php/JAPSPs/article/view/6721</u>
- Mouritsen, J., Larsen, H. T., & Bukh, P. N. D. (2001). Intellectual capital and the "capable firm": narrating, visualising and numbering for managing knowledge. *Accounting*, *Organizations and Society*, 26(7-8), 735–762. <u>https://doi.org/10.1016/s0361-3682(01)00022-8</u>
- Mouritsen, J., Nikolaj Bukh, P., & Marr, B. (2004). Reporting on intellectual capital: why, what and how? *Measuring Business Excellence, 8*(1), 46–54. <u>https://doi.org/10.1108/13683040410524739</u>
- Petty, R., & Guthrie, J. (2000). Intellectual capital literature review. *Journal of Intellectual Capital*, 1(2), 155–176. <u>https://doi.org/10.1108/14691930010348731</u>
- Pew Tan, H., Plowman, D., & Hancock, P. (2007). Intellectual capital and financial returns of companies. *Journal of Intellectual Capital*, 8(1), 76–95. <u>https://doi.org/10.1108/14691930710715079</u>
- Pulic, A. (2002). National IC-efficiency report of Croatian economy. 1-14.
- Ramírez, Y., Lorduy, C., & Rojas, J. A. (2007). Intellectual capital management in Spanish universities. *Journal of Intellectual Capital*, 8(4), 732–748. <u>https://doi.org/10.1108/14691930710830873</u>
- Ramírez, Y., Ponce, Á.C., & González, A.B. (2013). Intellectual capital report for universities. World Academy of Science, Engineering and Technology, 7(6), 536–542. Retrieved from <u>https://publications.waset.org/148/intellectual-capital-report-for-universities</u>
- Secundo, G., Lombardi, R., & Dumay, J. (2018). Intellectual capital in education. *Journal of Intellectual Capital, 19*(1), 2–9. <u>https://doi.org/10.1108/jic-10-2017-0140</u>
- Silvestri, A., & Veltri, S. (2012). The intellectual capital report within universities: Comparing experiences. *The Annals of University of Oradea. Economic Sciences, Tom 20*(2), 626-632. Retrieved from <a href="https://papers.srn.com/sol3/papers.cfm?abstract\_id=2187416">https://papers.srn.com/sol3/papers.cfm?abstract\_id=2187416</a>

An Analysis of the Scope Variations in Intellectual Capital Disclosure: ...

- Sopandi, O. D., & Saud, U. S. (2016). Implementasi knowledge management pada perguruan tinggi. Jurnal Administrasi Pendidikan, 23(2), 1-10. Retrieved from <u>https://ejournal.upi.edu/index.php/JAPSPs/article/view/5629</u>
- Stewart, T., & Ruckdeschel, C. (1998). Intellectual capital: The new wealth of organizations. *Performance Improvement*, 37(7), 56–59. <u>https://doi.org/10.1002/pfi.4140370713</u>
- Sudarsanam, S., Sorwar, G., & Marr, B. (2003). Valuation of intellectual capital and real option models sudi. *PMA Intellectual Capital Symposium*, 53.
- Ulum, I. (2009). Intellectual capital: Konsep dan kajian empiris. Yogyakarta: Graha Ilmu.
- Ulum, I. (2012). Konstruksi komponen intellectual capital untuk perguruan tinggi di Indonesia. *Jurnal Reviu Akuntansi dan Keuangan, 2*, 251–262.
- Ulum, I. (2015). Peran pengungkapan modal intelektual dan profitabilitas dalam hubungan antara kinerja modal intelektual dan kapitalisasi pasar. *Simposium Nasional Akuntansi 18*. Retrieved from

http://lib.ibs.ac.id/materi/Prosiding/SNA%20XVIII/makalah/182.pdf

- Ulum, I., Malik, M., & Sofyani, H. (2019). Analisis pengungkapan modal intelektual: Perbandingan antara universitas di Indonesia dan Malaysia. Jurnal Ekonomi Dan Bisnis, 22(1), 163–182. <u>https://doi.org/10.24914/jeb.v22i1.2343</u>
- Veltri, S., Mastroleo, G., & Schaffhauser-Linzatti, M. (2014). Measuring intellectual capital in the university sector using a fuzzy logic expert system. *Knowledge Management Research & Practice*, 12(2), 175–192. <u>https://doi.org/10.1057/kmrp.2012.53</u>
- Watts, R. L., & Zimmerman, J. L. (1990). Positive accounting theory: a ten-year perspective. *The Accounting Review*, 65(1), 131–156. Retrieved from <u>http://www.jstor.org/stable/247880</u>
- Wernerfelt, B. (1995). The resource-based view of the firm: ten years after. *Strategic Management Journal*, *16*(3), 171–174. Retrieved from http://www.jstor.org/stable/2486738
- Wiwitan, T., & Yulianita, N. (2017). Strategi marketing public relations perguruan tinggi islam swasta: peluang dan tantangan di era MEA. *Mediator: Jurnal Komunikasi, 10*(1), 1– 10. <u>https://doi.org/10.29313/mediator.v10i1.2672</u>