INTELLECTUAL CAPITAL DISCLOSURE AND COMPREHENSIVE INTELLECTUAL CAPITAL MANAGEMENT : EVIDENCE FROM UNIVERSITIES IN SOUTHEAST ASIA

by Sigit Hermawan

Submission date: 03-Mar-2023 09:46PM (UTC+0700)
Submission ID: 2027968407
File name: 1.8.pdf (1,022.38K)
Word count: 6929
Character count: 39990

Jurnal Reviu Akuntansi dan Keuangan, vol 11 no 1, p. 168-184

Website:
ejournal.umm.ac.id/index.php/jrak

***Correspondence:**
sigithermawan@umsida.ac.id

DOI: 10.22219/jrak.v11i1.14287

Citation:
Hermawan, S., Rahayu, D., Jamaludin, Rahayu, R.A., & Biduri, S. (2021). Intellectual Capital Disclosure And Comprehensive Intellectual Capital Management : Evidence From Universities In Southeast Asia. *Jurnal Reviu Akuntansi Dan Keuangan, 11(1), 168-184.*

Article Process
Submitted:
November 12, 2020

Reviewed:
February 17, 2021

Revised:
April 30, 2021

Accepted:
May 3, 2021

Published:
May 5, 2021

Office:
Department of Accounting
University of
Muhammadiyah Malang
GKB 2 Floor 3.
Jalan Raya Tlogomas 246,
Malang, East Java,
Indonesia

P-ISSN: 2615-2223
E-ISSN: 2088-0685

Article Type: Research Paper

INTELLECTUAL CAPITAL DISCLOSURE AND COMPREHENSIVE INTELLECTUAL CAPITAL MANAGEMENT : EVIDENCE FROM UNIVERSITIES IN SOUTHEAST ASIA

Sigit Hermawan[1*], Duwi Rahayu[1], Jamaludin[1], Ruci Arizanda Rahayu[1], Sarwenda Biduri[1]

Afiliation:
[1]Accounting Departement, Faculty of Economics and Business, University of Muhammadiyah Sidoarjo, East Java, Indonesia

ABSTRACT

The purpose of this study was to identify the practice patterns of disclosure of Intellectual Capital Disclosure by Universities in the Three Southeast Asian Countries, namely Indonesia, Malaysia, and Singapore based on the 4ICU ranking, conducting different tests of ICD practices at the University of the three countries, and providing recommendations on IC management strategies in university. This research is a type of mixed research (quantitative and qualitative). The other research results state that there are no differences in the ICD disclosure pattern between Universities in Indonesia, Malaysia, and Singapore. Recommendations for IC management strategies in higher education can be done with comprehensive intellectual capital management (CICM). The research implication is that universities in Southeast Asia need to carry out IC disclosure because it is a form of management accountability to stakeholders and also for decision making related to universities.

KEYWORDS: Comprehensive Intellectual Capital Management; Intellectual Capital Disclosure; Southeast Asian Universities' Website; 4ICU.

© 2021 jrak. all rights reserved
http://ejournal.umm.ac.id/index.php/jrak

INTRODUCTION

Universities ranking is very important to the management of Universities because it is related to performance, promotion media, and the reputation or image building of the University (Hermawan, Sigit., Sriyono., Wiwit Hariyanto., 2019). Various ranking that carried out by webometrics, 4 Internal Colleges & Universities (4ICU), Ministry of research DIKTI, and also Anugrah Karya Unggul (AKU) by service agency of DIKTI in East Java, are something that very precious for management of University in Indonesia. Various effort are carried out by University in Indonesia in order to reach high rank in various ranking result by world's institution or the institution that in Indonesia. Table 1 explain about the ranking of University in Indonesia, Malaysia, and Singapore based on Best 100 by 4ICU.

No	University	Country	Rank In Asia
1	National University of Singapore	Singapore	11
2	Nanyang Technological University	Singapore	26
3	Gadjah Mada University	Indonesia	35
4	Yogyakarta State University	Indonesia	45
5	Indonesia University	Indonesia	55
6	MARA University of Technology	Malaysia	65
7	Malaya University	Malaysia	100

Table 1. The Ranking of Universities In Indonesia, Malaysia and Singapore Based 4ICU Version

Based on Table 1 is known that the ranking of Universities in Indonesia, Malaysia, and Singapore are still lose with other University in Asia. The three countries only placed seven University among 100 rank based on 4ICU version. Thus can be known that the competitiveness of Universities in the three countries is still far behind the other countries in Asia based on rank from 4ICU.

Various ranking carried out by rank institution generally requires a disclosure of information from management of University. That disclosure of information can be done with Intellectual Capital Disclosure (ICD). ICD is the part of development from Intellectual Capital (IC). IC is interpreted as a form that provide a combination of intangible assets such as intellectual, human, and infrastructure that make a company can run according to it's function(Yudhanti, C. B. H., & Shanti, 2011). Intellectual Capital also categorized as intangible assets that must managed and empowered in order to improve organizational performance, competitiveness, and welfare. Not only developed and empowered, Intellectual Capital must be disclosed in form of ICD.

Research of IC in University already have done by other some researcher such as Ulum & Wijayanti (Ulum, I., & Fitri Wijayanti, 2018),(Sharabati et al., 2016),(Córcoles, 2013). Those researches generate the different result. Research by (Ulum, I., & Fitri Wijayanti, 2018) conclude that there is no University who totally disclose it's IC. University disclose the human capital and relation capitol in indirect way by achievement and the service they have. Any other result declare that ICD has a positive effect on student's interest toward the University. Research's result by (Sharabati et al., 2016) declare three components of IC (HC, SC, and RC) have the significant relationship to performance and the most dominant component is HC.

The result of research by (Gogan, Artene, Sarca, & Draghici, 2016) declare that IC in University is more complicated because it include IC in public sector organization with more non-financial goals. Beside, the result of research by (Córcoles, 2013)declare that

University who disclosure the ICD well, is more transparant, increase user's satisfied, develop credibility, image, and University's reputation.

Thus, this study is different form IC research at universities that have been conducted by other researches. The purpose of this study is to identify pattern of Intellectual Capital Disclosure at universities in Indonesia, Malaysia, and Singapore, examine whether there are differences in ICD in the three countries, and formulate IC management strategies that can improve universities performance and competitiveness.

Resource Based Theory (RBT) Wernerfelt (1984) is widely used as a reference theory from the management of Intellectual Capital such as (Ifleh, Y., Lotfi, M., & Elkabbouri, 2017) Rađenović & Krstić, (2017), Kamaluddin & Rahman (2013), Hermawan & Milanetty (2018), Murale et al., (2010). Based on *the resource based theory* (RBT), company will get the competitive advantage and superior performance by acquisition, obtain and use strategic assets that are important for competitive advantage and superior financial performance (Wernerfelt, 1984). Wether its tangible assets or intangible assets perceived as a potential assets. Based on this assets, the benefits of this two assets is the positif results between corporate's resource and measurement of the performance. Includes of the intangible assets derive from the capability for having all the characteristics of strategic assets. When most of the intangible assets are not qualified as a strategic assets, Intellectual Capital generally considered as a important strategic assets. With obtain the Intellectual Capital, special and valuable knowledge is owned by the corporate (S. Hermawan, n.d.-b)

The study about IC already completed in so many sectors such as manufactur, trading, service, and even for the nation just as the study of (Wendra, W., Sule, E. T., Joeliaty, J., & Azis, 2019), (Wendra, W., Sule, E. T., Joeliaty, J., & Azis, 2019),(Macerinskiene, I., & Aleknaviciute, 2015). IC can also be used in the study of performance (Gogan, L. M., Artene, A., Sarca, I., & Draghici, 2016).(Cohen, S., & Kaimenakis, 2007),(Chahal, H., & Bakshi, 2014) competitive advantage (Hermawan, S., Hariyanto, W., & Biduri, 2020) (Kamukama, N., Ahiauzu, A., & Ntayi, 2011), (Ghosh, S., & Mondal, 2009),(Chen, 2007), and strategy development (Hornungová, 2017),(S. Hermawan, n.d.-a) and (S. Hermawan, 2016).

There is so many researcher express the different opinion about Intellectual Capital. Intellectual Capital as intellectual property, intellectual assets, knowledge assets that can be used as capital or shares based on knowledge owned by the company(Rodgers, 2007) . Intellectual Capital is a knowledge resource that available in the company that will bring a profit in the future for the company (Marsh, 2011). Final destination of Intellectual Capital measurement is to produce management tools to inform the ability of stakeholders, institution's recource and comitment in relation to the basis for determining the value of the institution.

Meanwhile, IC is not only used for performance measurement or strategic development but also can be used to disclose an information in the form of Intellectual Capital Disclosure (ICD), just as the study of (Hermawan, S., & Milanetty, 2018),(Cuozzo, B., Dumay, J., Palmaccio, M., & Lombardi, 2017), (Kamath, 2014), and (Bozzolan, S., O'Regan, P., & Riccer, 2006). Those studies is a ICD study in corporate, meanwhile a study of ICD in Universities have already done by (Córcoles, 2013), Ulum et al., (2016), and Ulum & Wijayanti, (2018).

Universities that used ICD will be more transparant, user will be more satisfied with the existing information, increase the credibility, image, reputation of the University (Corcoles, Ponce, & Tejada, 2013). Therefore, by ICD, external stakeholder can have the reliable and comparable information about the college performance so that it can be uses for the basis of decision making (Córcoles, 2013).(Ulum, I., & Fitri Wijayanti, 2018) state that ICD has a positiv effect to the prospect of desire of the students toward that University. In other study,(Ulum, I., & Fitri Wijayanti, 2018) state that ICD conducted by 44 Muhammadiyah Universities in Indonesia, non of which revealed the complete information, and it was proven that there was no complete information disclosure, and it was proven that IC disclosure was still low on the website. Almost the same study stated by (Ulum, I., & Novianty, 2012) with broader object of the study namely Universities in Indonesia. The result is Universities in Indonesia are still disclosure the information in narative form. IC disclosure in the form of number, IDR or monetary, and in picture or graph form are still under 40%.

Studies conducted by Córcoles, (2013) and Corcoles, Ponce, & Tejada, (2013) still struggling with the benefits of ICD in Universities. Meanwhile, some studies conducted by (Ulum, I., Tenrisumpala, A., & Wahyuni, 2016),(Ulum, I., & Fitri Wijayanti, 2018), (Ulum, I., & Novianty, 2012) are still in Universities in Indonesia. Therefore, other studies are needed that is broader in scope and strategic development of IC after knowing the result of that ICD research.

Organization or Universities after knowing what their ICD must carry out IC management strategyc to improve their performance and competitiveness. Because IC is proven has the effect to performance, competitiveness, and prosperity (Sigit Hermawan & Milanetty, 2018), (Windu & Murwaningsari, 2019), (Sharabati et al., 2016), (Yaseen, Dajani, & Hasan, 2016), (Gogan et al., 2016), (Obeidat, Abdallah, Aqqad, N.O., Akhoershiedah, & Maqableh, 2017), (Matinfard & Khavari, 2015)., (Khalique, M., Isa, & Ageel, 2011)., (Hsu, 2006), (Mageza, 2004)).

Some management strategic of IC have already produced by researches, such as Brown et al., (2005) who propose about *Life Cycle View of IC*. The next is (Johnson, 2002), state that for management of IC can concluded by *"product and process management of human capital"*. The MERITUM project (2001) propose the *MERITUM guidelines* for management of IC(Matinfard, M., & Khavari, 2015) dan (Salleh, 2015) propose *Comprehensive Intellectual Capital Management (CICM)* for management of IC. According to the authors based on some concept of IC's management, the one that give the best and complete result is CICM by (Matinfard, M., & Khavari, 2015) .It is because CICM have clear, measurable, and comprehensive stages and can be used as a strategy to improve performance and competitiveness (Sigit Hermawan, 2015)., (Sigit. Hermawan, 2016), (Sigit Hermawan, n.d.)).

Meanwhile, the education system in Southeast Asian countries is not much different, especially in Indonesia, Malaysia and Singapore. Likewise with the IC disclosure that was carried out. Based on this, the hypothesis of this study is that there are differences in IC disclosure in Indonesia, Malaysia and Singapore.

METHOD

This research based on mixed method (Creswell, JW, Plano Clark, 2007). Quantitative method are used to answer the hypothesis whether there are differences in IC disclosure between universities in Indonesia, Malaysia, and Singapore. The qualitative method is used

to achieve the research objectives, namely the management of IC in universities that can be improve performance and competitiveness.

Population for this research are 200 Universities in Southeast Asia based on ranking by 4ICU year 2019. Meanwhile, the sample of this research are the best three Universities in Southeast Asia Country, namely Indonesia, Malaysia, and Singapore The reason for using data in the three countries is because the three countries have very good development of tertiary education. In the meantime, the reason for why using 4ICU is because this rangking give a rate based on web metrics that are valid, impartial, and cannot be influenced by data sent by the University itself. By using purposive sampling of the three best Universities in Indonesia, Malaysia, and Singapore, the research data are as follows:

Table 2. Three Best Universities in Three Country in Southeast Asia

No	Indonesia	Malaysia	Singapura
1	Gadjah Mada University Website : https://ugm.ac.id/	MARA University of Technology Website : https://www.uitm.edu.mv/	National University of Singapore Website : http://www.nus.edu.sg/
2	Brawijaya University Website : http://www.ub.ac.id/	Putra Malaysia University Website : http://www.upm.edu.my/	Nanyang Technological University Website : http://www.ntu.edu.sg/Pages/home.aspx
3	Indonesia University Website : http://www.ui.ac.id/	Malaya University Website : http://www.um.edu.	Singapore Management University Website : https://www.smu.edu.sg/

Variable that used for this research is 4ICU ranking as the dependent variable and Intellectual Capital in Universities in Southeast Asia as a independent variable. Data analys for this research performed with :

a. Content analysis, carried by providing the check list and providing a serial code *(five way numerial coding system) :* (Ihyaul Ulum & Fitri Wijayanti, 2018).

   0=item not disclosed

   1=item disclosed in narative form

   2=item disclosed in numeric form

   3=item disclosed in monitary form

   4=item disclosed in graph/picture form

b. Different test with *Mann-Whitney* is used to see whether or not there are differences disclosure of *Intellectual Capital* conducted by the three Universities in Indonesia, Malaysia, and Singapore.

Strategic management of *Intellectual Capital* that conducted in this research ias *Comprehensive Intellectual Capital Management (CICM)* (Matinfard, M., & Khavari, 2015).For formulate the strategic management of IC use the *interpretive accounting research* (Maali, B., & Jaara, 2014) with data collection technique namely *in depth interview, focus group discussion (FGD),* and

documentation. For the data analysis conducted by the stages which is data collection, data reduction, data display, and conclusion as recommended(Miles, Mathew B., 1994).

RESULTS AND DISCUSSION

The object of this research is disclosure of ICD in Universities. This research use secondary data obtained from www.4icu.ord and University's web as shown in Table 2.

Overall Result of ICD Disclosure in Three Universities in Indonesia

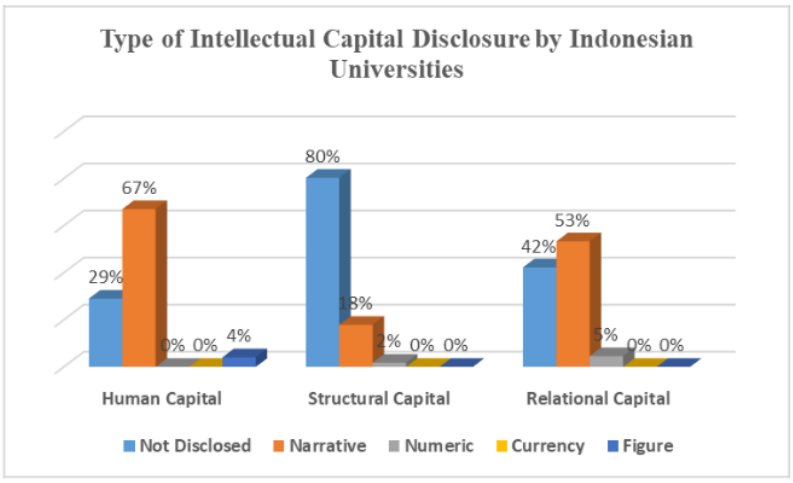

Figure 1. ICD result in Universities in Indonesia

Picture 1 explains the method or media chosen by Universities in Indonesia in presenting Intellectual Capital information. The result is an undisclosed Human Capital component of 29%, revealed through narration 67%, number form 0%, currency form 0%, and image 4%. The undisclosed Structural Capital component is 80%, revealed by narration is 18%, by number 2%, currency 0%, and image 0%. The undisclosed Relational Capital component is 42%, revealed by narration 53%, by number 5%, currency 0%, and image 0%.

Overall Result of ICD Disclosure in Three Universities in Malaysia.

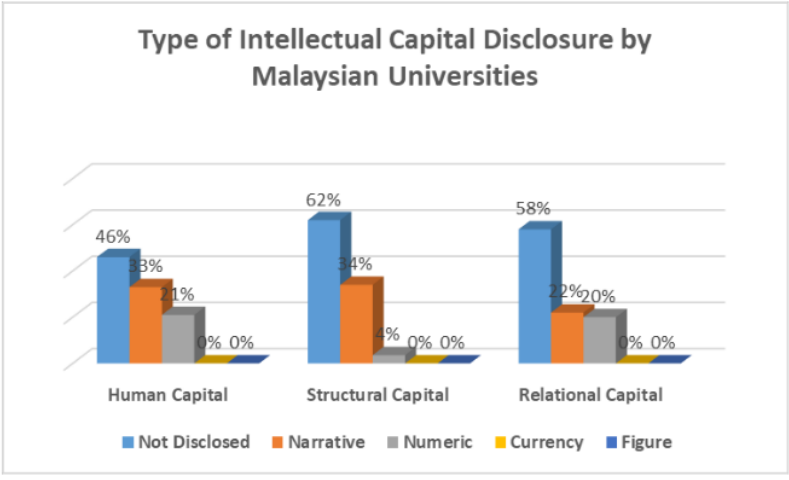

Figure 2. ICD result in Universities in Malaysia

Picture 2 explains the method or media chosen by Universities in Malaysia in presenting Intellectual Capital information. The result is the undisclosed Human Capital component is 46%, revealed by narration 33%, by number 21%, in currency 0%, and image 0%. The undisclosed Structural Capital component is 62%, revealed by narration is 34%, by number 4%, currency 0%, and image 0%. The undisclosed Relational Capital component is 58%, revealed by narration 22%, by number 20%, currency 0%, and image 0%.

Overall Result of ICD Disclosure in Three Universities in Singapore.

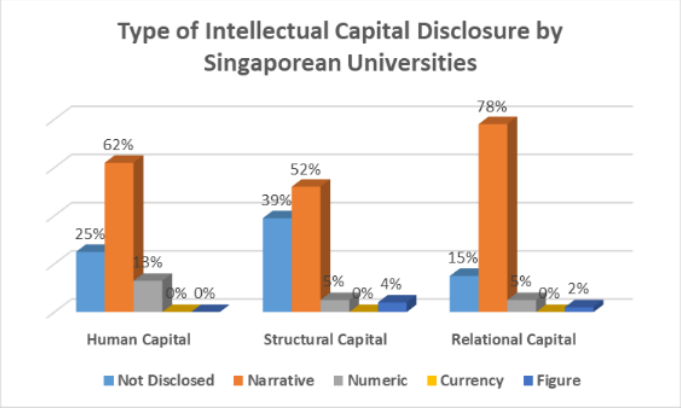

Figure 3. ICD result in Universities in Singapore

Picture 3 explains the method or media chosen by Universities in Singapore in presenting Intellectual Capital information. The result is the undisclosed Human Capital component is 25%, revealed by narration 62%, by number 13%, in currency 0%, and image 0%. The undisclosed Structural Capital component is 39%, revealed by narration is 52%, by number 5%, currency 0%, and image 4%. The undisclosed Relational Capital component is 15%, revealed by narration 78%, by number 5%, currency 0%, and image 2%.

NO	TYPE	AMOUNT	TOTAL	PERCENTAGE
1	NARATIVE		**166**	**44,3%**
	A. Human Capital	49		
	B. Structural Capital	58		
	C. Relational Capital	69		
2	NOT DISCLOSED		**178**	**47,6%**
	A. Human Capital	24		
	B. Structural Capital	102		
	C. Relational Capital	52		
3	NUMERIC		**26**	**7%**
	A. Human Capital	8		
	B. Structural Capital	5		
	C. Relational Capital	13		
4	FIGURE		**4**	**1,1%**
	A. Human Capital	1		
	B. Structural Capital	2		
	C. Relational Capital	1		
5	CURRENCY		**0**	**0%**
	A. Human Capital	0		
	B. Structural Capital	0		
	C. Relational Capital	0		

Table 3. Types of ICD Disclosure by Universities In Indonesia, Malaysia and Singapore

Based on the results of data analysis, it can be concluded that the type of Intellectual Capital Disclosure at Universities in Indonesia, Malaysia, and Singapore as in Table 3.

IC Disclosure by Universities in Indonesia, Malaysia, and Singapore.

IC disclosure by Universities in the three countries indicated by the following results :

a. ICD of Universities in Indonesia with Universities in Malaysia.

Keterangan	Hasil
Mann-Whitney U	909,17
Wilcoxon W	1990,17
Z	-1,344
Asymp. Sig. (2-tailed)	,370

Table 4. Statistical Test Result 1

Based on the table above, it can be seen that the Z count value is -1,344 with Asymp Sig. (2-tailed) is 0,370 that mean there is no difference in disclosure pattern of Intellectual Capital in Universities in Indonesia and Malaysia. That is because in the Mann-Whitney Test, it is said there is a difference if the value of Asymp. Sig. (2-tailed) < 0,05 meanwhile in that table the value of Asymp. Sig. (2-tailed) > 0,05 that is 0,370 so that there is no difference.

b. ICD of Universities in Malaysia with Universities in Singapore

Keterangan	Hasil
Mann-Whitney U	766
Wilcoxon W	1,847
Z	-1,344
Asymp. Sig. (2-tailed)	,155

Table 5. Statistical Test Result 2

Based on the table above, it can be seen that the Z count value is -1,344 with Asymp Sig. (2-tailed) is 0,155 that mean there is no difference in disclosure pattern of Intellectual Capital in Universities in Malaysia and Singapore. That is because in the Mann-Whitney Test, it is said there is a difference if the value of Asymp. Sig. (2-tailed) < 0,05 meanwhile in that table the value of Asymp. Sig. (2-tailed) > 0,05 that is 0,155 so that there is no difference.

c. ICD of Universities in Indonesia with Universities in Singapore

Keterangan	Hasil
Mann-Whitney U	767,33
Wilcoxon W	1848,33
Z	-2,550
Asymp. Sig. (2-tailed)	0,275

Table 6. Statistical Test Result 3

Based on the table above, it can be seen that the Z count value is -2,550 with Asymp Sig. (2-tailed) is 0,275 that mean there is no difference in disclosure pattern of Intellectual Capital in Universities in Indonesia with Singapore. That is because in the Mann-Whitney Test, it is said there is a difference if the value of Asymp. Sig. (2-tailed) < 0,05 meanwhile

in that table the value of Asymp. Sig. (2-tailed) > 0,05 that is 0,275 so that there is no difference.

Comprehensive Intellectual Capital Management As IC Management For Universities

In this research, after knowing the results of quantitative research about the ICD pattern used by Universities in three Southeast Asian countries and knowing there were no differences in IC disclosure, then a qualitative study was conducted on IC management strategies at Universities. This qualitative research involved key informants as sources of information during in depth interview and Focus Group Discussion (FDG). The key informant of this research were the vice chancellor, the Dean, the Head of the Directorate, the strategy management expert, the University management expert, and the IC researcher.

Table 7. The Same Concept or Pattern from Coding Process

Coding	Theme and Concept
	IC Management based Comprehensive Intellectual Capital Management (CICM)
A	Knowledge Management (KM)
B	Innovation Management (IM)
C	Intellectual Property Management (IPM)

The research process was carried out by collecting data through in depth interview, FGDs and documentation. In the process the data validity test is also carried out by cross checking between the data documentation, in depth interviews, and FGD. Data that has been collected is the carried out data reduction and coding in order to obtain data display and conclusion. The results of the research in the form of the same theme or concept are shown in Table 7.

***Intellectual Capital Disclosure* in three countries in Southeast Asia.**

The disclosure of *Intellectual Capital* in the three countries (Indonesia, Malaysia, and Singapore) is still low. This can be seen from the percentage of the undisclosed IC is more that 50%, like Malaysia to reach 55%, Indonesia 51%, and only Singapore that the percentage of undisclosed *Intellectual Capital* is under 50% that is 26%.

The result of this research is the same as the result completed by (Ulum, I., & Fitri Wijayanti, 2018),(Ulum, I., & Novianty, 2012), and (Bezhani, 2010) that shown how important of Intellectual Capital Disclosure is to demonstrate the information to Stakeholders. That means, the more Intellectual Capital disclosed by the Universities, then it can help provide information to stakeholders and can improve the performance of the University (Córcoles, 2013). This is in accordance with Resource Based Theory (Barney, 1991) which states that a company or University that is able to manage its resources effectively can create a competitive advantage compared to its competitors.

Data analysis showed the compare pattern in ICD disclosure between Universities in Indonesia, Malaysia, and Singapore. Universities in Indonesia disclose the Intellectual Capital with narrative form 46%, number 2%, currency 0%, picture 1% meanwhile the undisclosed is 51%. In the meantime, Universities in Malaysia disclose the Intellectual Capital with narrative form 30%, number 15%, currency 0%, picture 0%, and the undisclosed is 55%. For the Universities in Singapore disclose the Intellectual Capital with narrative form 64%, number 8%, currency 0%, picture 2% and the undisclosed is 26%.

The next result in this research is testing the data obtained by the different test (Mann-Whitney) between Universities in Indonesia, Malaysia, and Singapore, there is no significant

difference. The result of this research support previous researches conducted by (I Ulum et al., 2016) which states that there is no significant difference between ICD of Universities in Indonesia and Malaysia and more revealing in the narrative form. This means that for the best three Universities in three countries have shown almost the same performance so that there are no significant differences. One of them is Indonesia, which was initially lagging behind Malaysia and Singapore but in recent years it has increased. As stated by the Minister of Research, Technology and Higher Education (Menristek Dikti) of Indonesia, based on data of Global Competitiveness Index which was released by World Economic Forum (WEF), Indonesia's competitiveness for the 2015-2016 period reached 37 out of 140 countries (score 4,5). In the period 2016-2017 reached 41 of 138 countries (score 4,5) and in the period 2017-2018 Indonesia ranked 36 out of 137 countries (score 4,7) (http://technology-indonesia.com, 2018). Other evidence that the performance of Universities in Indonesia are able to compete with Universities in Southeast Asia is in term of scientific publications. During the four years since 2015-2018, the growth of Indonesia's international publications reached 263,27 percent. Indonesia's international publications in 2015 are still ranked fourth in Southeast Asia with 8,263 scientific articles. In 2016, although still ranked fourth, Indonesian publications increased to 12,295 scientific articles. In 2017, Indonesian international publications ranked third with 20,239 publications and defeated Thailand. About the improved performance of Indonesian Universities is supported by the results of research by (Indiyati, 2015) which states that private Universities in Indonesia have a high IC, it is characterized by good and developing human capital, quality structural capital, and customer capital that cares about its customer.

Meanwhile, based on the process of qualitative research was obtained the results that management of IC by Universities can concluded with *comprehensive intellectual capital management (CICM)* (Matinfard & Khavari, 2015). That CICM consist of three stages for every component in IC, that's knowledge management (KM), innovation management (IM), and intellectual property management (IPM). So, in every component of IC, that is human capital, structural capital, and relational capital, will be consist of three stages of CICM. For more details, see Picture 4 and Table 8 about CICM Model and the purpose of CICM.

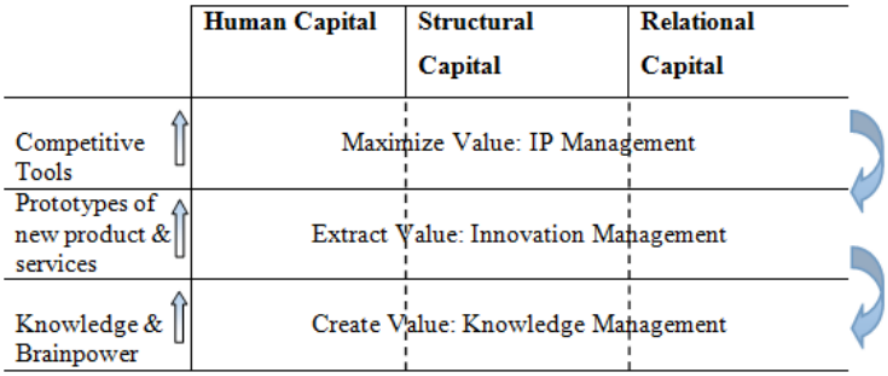

Figure 4. CICM MODEL (Modified by Researcher)

CICM Stage	IC Group	Purpose	Purpose of Management
Knowledge Management	Material Raw Source of Knowledge	Creating Value	Recognize and enforce the knowledge resource required to maintain the organizational process
Innovation Management	Innovation Process and Resource	Extraction (Issuing Value)	Release and re-configure innovation resource to create new ways in performing business and faster new product
Intellectual Property Management	Intellectual Wealth	Maximizing Value	Allow the use of intellectual wealth to improve competitive position of the company and increase the organizational income

Table 8. The Purpose of Management and Purpose for CICM

Based on Picture 4 and Table 8, the informant of research give good opinion during in depth interview and FDG. The results states that CICM Model can be used for manage IC in every stages in Universities development and every stages support the next stages. The first stages, that is create value with concluded knowledge management of knowledge and brainpower. The implementation in Universities in this stages can showed that University is still in minimum scale and not yet developed. University with the type of knowledge management are still in the stages for collected the knowledge of its lecturers. Process of knowledge sharing in University can be concluded with SECI Model that is recommended by (Nonaka, I., Takeuchi, 1995).

University in this stages is deficiency of human capital. Lecturers owned are still limited to lecturers with Master qualification. The knowledge, experience, and expertise in human capital are not yet known by other University. Likewise the organizational structure is still very simple. The number of study programs is still small with the value of accreditation at the middle level. Information systems owned are also not yet developed. Likewise, for relational capital is still very limited with the scope still regional and little for the scope of national cooperation. Achievements the work of students and lecturers are still not widely known by the general public.

That stage of knowledge management will supported the second stage, that is extract value with conclude innovation management of prototypes of new product or service. In this second stage University start doing the intensive innovation. About the necessary of University for always do innovation is stated by (Yi Wu, H., Chen, J.-K., & Chen, 2011) which states that if a University want to be success then it always have to innovate highly. Good innovation by University only can be done by the lecturers who have competitive advantages. That is marked with so many lecturer who holds a Doctorate of lecturer who is also studying Doctor. Competitiveness and experience of lecturers are also increased. This is proven by the increasing number of lecturers' woks in the fields of research, community service and publication. The intellectual property of lecturers in the form of copyright and patents has also begun to emerge and continues to increase in number. The number of study programs also began to increase according to the needs of the community and the

labor market share. University also start to began developing the integrated information management system between academic system, finance system, students system, research and publication system, human resource development system, and other system. Because start to began innovating so that University start to known in regional and national stage. Lecturers's creation and competitiveness increased marked with more lecturers are invited to be the resource person in some events by other University or Institution. The last or third stage is to maximize the value of intellectual property management of competitive tools. In this third stage, Universities have many worked that are sold and utilized by industry and society at large. About the interaction of industry with Universities is an indicator of the evaluation of the success criteria of relational capital(Yi Wu, H., Chen, J.-K., & Chen, 2011). Human capital or lecturers who owned have many Doctorates and Professor. Many lecturers and students have copyright and patents so that Universities have started to manage intellectual property. Universities have its own unit that manages copyright, patents or brands which are the work of lecturers and students. Owned organizational structure is complete. Information systems that support internal activities have been integrated between work units with one another. International and national recognition has been widely obtained by institutions of University, lecturers, and students. Likewise, with networking intellectual capital that owned by the University be the success criterion as recommended by Vătămănescu et al., (2015), that is networking based on human capital, networking based on structural capital, and networking based on relational capital.

CONCLUSION

Intellectual Capital Disclosure is relatively low in Universities in three Southeast Asia countries. The highest percentage of disclosure of Intellectual Capital in Universities in Indonesia is the human capital component with 67% percentage in narrative form, 4% in picture form. The next is structural capital is the highest component that is undisclosed, that is 80%. The highest percentage of disclosure of Intellectual Capital in Universities in Malaysia is the human capital component with 33% percentage in narrative form, 21% in number form, then structural capital component is the highest component that is undisclosed, that is 62%. The highest percentage of disclosure of Intellectual Capital in Universities in Singapore is the relational capital with 78% percentage in narrative form, 5% in number form, and 2% in picture form. Then the highest component that is undisclosed is structural capital with 3% percentage.

Meanwhile, the results of other research show that there are no differences in ICD in Indonesia, Malaysia, and Singapore. For IC management, it can be done with Comprehensive Intellectual Capital Management (CICM). University can utilize the IC components, that is human capital, structural capital, and relational capital by following the stages of knowledge management, innovation management, and intellectual property management. Disclosure Statement, The author of this article has no competing financial, professional or personal interests from other parties.

The limitation of this research is the limited access to IC disclosure which is only based on the university website. Another limitation is that the number of universities used as research samples is too small and is limited to only three countries. The research implication is that universities in Southeast Asia need to carry out IC disclosure because it is a form of management accountability to stakeholders and also for decision making related to universities.

REFERENCES

Barney, J. (1991). Firm Resources and Sustained Competitive Advantadge. *Journal of Management*, *17*(1), 99–120.

Bezhani, I. (2010). Intellectual capital reporting at UK universities. *Journal of Intellectual Capital*, *11*(2), 179-0207. Retrieved from https://doi.org/10.1108/14691931011039679

Bozzolan, S., O'Regan, P., & Riccer, F. (2006). Intellectual capital disclosure (ICD) A comparison of Italy and the UK. *Journal of Human Resource Costing & Accounting.*, *10*(2), 92–113.

Chahal, H., & Bakshi, P. (2014). Effect Of Intellectual Capital On Competitive Advantage And Business Performance: Role Of Innovation And Learning Culture. *Int. J. Learning and Intellectual Capital*, *11*(1).

Chen, Y.-S. (2007). The Positive Effect of Green Intellectual Capital on Competitive Advantages of Firms. *Journal of Business Ethics*, (77), 271–286. Retrieved from DOI 10.1007/s10551-006-9349-1.

Cohen, S., & Kaimenakis, N. (2007). Intellectual Capital And Corporate Performance In Knowledge-Intensive SME's. *The Learning Organization*, *14*(3), 241–262.

Corcoles, Y., Ponce, R., & Tejada, A. (2013). Cost Benefit Analysis of Intellectual Capital Disclosure : University Stakeholders' View. Spanish Accounting Review. 16 (2), 106-117.

Córcoles, Y. R. (2013). Importance Of Intellectual Capital Disclosure In Spanish Universities. Intangible Capital, 9(3), 931–944.

Creswell, JW, Plano Clark, V. (2007). *Designing and Conducting Mixed Methods Research. Thousand Oaks, CA: Sage.*

Cuozzo, B., Dumay, J., Palmaccio, M., & Lombardi, R. (2017). Intellectual Capital Disclosure: A Structured Literature Review. *Journal of Intellectual Capital.*, *18*(1), 9–28.

Ghosh, S., & Mondal, A. (2009). Indian Software and Pharmaceutical Sector IC and Fnancial Performance. *Journal of Intellectual Capital*, *10*(3), 369–388.

ogan, L. M., Artene, A., Sarca, I., & Draghici, A. (2016). The Impact of Intellectual Capital on Organizational Performance. 13th International Symposium in Management. *Procedia - Social and Behavioral Sciences*, 194 – 202. Retrieved from www.sciencedirect.com

Gogan, L. M., Artene, A., Sarca, I., & Draghici, A. (2016). The Impact of Intellectual Capital on Organizational Performance. 13th International Symposium in Management. Procedia - Social and Behavioral Sciences , page 194 – 202.

Hermawan, S., & Milanetty, L. D. (2018). The Comparison Of Intellectual Capital Disclosure: Evidence From Pharmaceutical Company In Southest Asian Countries, (125), 45–49. Retrieved from https://doi.org/10.2991/icigr-17.2018.11

Hermawan, S., Hariyanto, W., & Biduri, S. (2020). Intellectual Capital, Business Performance, and Competitive Advantange: An Empirical Study For The Pharmaceutical Companies.

Hermawan, Sigit., Sriyono., Wiwit Hariyanto., dan N. F. (2019). Makna Pemeringkatan dan Peningkatan Kinerja Perguruan Tinggi Perspektif Intellectual Capital. *Jurnal Ilmiah Akuntansi Dan Bisnis.*, *14*(2), 142–154.

Hermawan, S. (n.d.-a). Comprehensive Intellectual Capital Management As A Supplement For Knowledge Based Theory And Resource Based Theory. *International Journal of Current Advanced Research*, *6*(10), 7075–7081.

Hermawan, S. (n.d.-b). Makna Intellectual Capital Perspektif the Role Theory Dan the Resource Based Theory. *EKUITAS Jurnal Ekonomi Dan Keuangan*, *17*(2), 256. Retrieved from https://doi.org/10.24034/j25485024.y2013.v17.i2.2252

Hermawan, S. (n.d.). Makna Intellectual Capital Perspektif the Role Theory Dan the Resource Based Theory. *EKUITAS (Jurnal Ekonomi Dan Keuangan)*, *17*(2), 256. https://doi.org/10.24034/j25485024.y2013.v17.i2.2252

Hermawan, S. (2015). Intellectual Capital Empowerment Through Comprehensive Intellectual Capital Management (An Interpretive Accounting Research). Proceeding. The 1st Joint Conference Indonesia – Malaysia – Bangladesh – Ireland (IJCIMBI) 2015.

Hermawan, S. (2016). Comprehensive Intellectual Capital Management (CICM) And The Opportunity For The Strategic Management Accounting (SMA). Advances In Global Business Research. Vol. 13, No. 1, page 2.435-2.451.

Hermawan, S. (2016). Comprehensive Intellectual Capital Management (CICM) And The Opportunity For The Strategic Management Accounting (SMA). *Advances In Global Business Research*, *13*(1), 2.435-2.451.

Hermawan, S., & Milanetty, L. D. (2018). The Comparison Of Intellectual Capital Disclosure: Evidence From Pharmaceutical Company In Southest Asian Countries, 125, 45–49.

Hornungová, J. (2017). Nonfinancial Performance Evaluation As Significant Area Of Strategic Business Management. Business: Theory and Practice. 18: 71–78. https://doi.org/10.3846/btp.2017.008.

Hsu, H. Y. (2006). Knowledge Management and Intellectual Capital. Dissertation. Southern IllinoisUniversity.CarbondaleUSA http://technology-indonesia.com/lain-lain/umum-lain-lain/inilah-capaian-kemenristekdikti-2018/.

http://technology-indonesia.com. (2018). http://technology-indonesia.com/lain-lain/umum-lain-lain/inilah-capaian-kemenristekdikti-2018/.

Ifleh, Y., Lotfi, M., & Elkabbouri, M. (2017). Rethinking Value Creation From The Resource Based View: The Case Of Human Capital In Moroccan Hotels. *International Journal of Applied Management and Economics.*, *2*(2), 13–25.

Indiyati, D. (2015). Intellectual Capital Development In Higher Education In Indonesia. *IJABER*, *13*(7), 6033–6051.

Johnson, W. H. A. (2002). Leveraging Intellectual Capital Through Product and Process Management of Human Capital. *Journal of Intellectual Capital*, *3*(4), 415–429.

Kamaluddin, A., & Rahman, R. A. (2013). The Intellectual Capital Model: The Resource-Based Theory Application. Int. J. Learning and Intellectual Capital, Vol. 10, Nos. 3/4, page 294-313.

Kamath, G. B. (2014). A Theoretical Framework for Intellectual Capital Disclosure. *Pacific Business Review International.*, *6*(8), 50–54.

Kamukama, N., Ahiauzu, A., & Ntayi, J. M. (2011). Competitive Advantage: Mediator Of Intellectual Capital And Performance. *Journal of Intellectual Capital*, *12*(1), 152–164.

Khalique, M., J. A. N. S., Isa, A. B. M., & Ageel, A. (2011). Role of Intellectual Capital on the Organizational Performance of Electrical SMEs in Pakistan. International Journal of Business and Management, 6 (9):253-257.

Maali, B., & Jaara, O. (2014). Reality and Accounting: The Case for Interpretive Accounting Research. *International Journal of Accounting and Financial Reporting*, *4*(1).

Macerinskiene, I., & Aleknaviciute, R. (2015). Comparative Evaluation of National Intellectual Capital Measurement Models. *Business: Theory and Practice*, *16*(1), 1–14. Retrieved from doi:10.3846/btp.2015.548.

Mădălina Vătămănescu, E., Dumitriu, D.-L., Andrei, A. G., & Leovaridis, C. (2015). Networking Intellectual Capital towards Competitiveness: An Insight into the European Higher Education Institutions. The Electronic Journal of Knowledge Management Volume 13 Issue 3 (pp228-239) available online at www.ejkm.com.

Mageza, P. Z. (2004). Intellectual Capital As A Creator of Wealth and Shareholder Value For AnOrganization. Short Dissertation. Rand Afrikaans University.USA.

Marsh, R. (2011). A New Company Descriptor Takes Us Into A New Era. *Journal of Documentation*, *67*(1), 165–171. https://doi.org/https://doi.org/10.1108/jd.2011.27867aaa.001.

Matinfard, M., & Khavari, A. (2015). The Impact Of Intellectual Capital On Firm Performance: Evidence from Tehran Stock Exchange. *Management Science Letters*, *5*, 1005–1016. https://doi.org/https://doi: 10.5267/j.msl.2015.8.011

Matinfard, M., & Khavari, A. (2015). The Impact Of Intellectual Capital On Firm Performance: Evidence from Tehran Stock Exchange. Management Science Letters. 5, 1005–1016. https://doi: 10.5267/j.msl.2015.8.011.

Miles, Mathew B., dan A. M. H. (1994). *An Expanded Sourcebook: Qualitative Data Analysis*. London: Sage Publications.

Murale, V., Jayaraj, R., & Ashrafali. (2010). Impact of Intellectual Capital on Firm Performance: A Resource Based View Using VAIC Approach. International Journal of Business, Management, Economics, and Information Technology. Vol 2 No 2, page 283-292.

Nonaka, I., Takeuchi, H. (1995). *The knowledge-creating company. How Japanese companies create the dynamics of innovation*. Oxford University Press.

Obeidat, B. ., Abdallah, A. ., Aqqad, N.O., Akhoershiedah, A. H. O. ., & Maqableh, M. (2017). The Effect of Intellectual Capital on Organizational Performance: The Mediating Role of Knowledge Sharing. Communications and Network, 9, 1-27. http://dx.doi.org/10.4236/cn.2017.91001.

Pereira, V. S., Fgv, E., Othman, R., Arshad, R., Aris, N. A., Arif, S. M. M., … Fgv, E.

(2011). Um ensaio teórico : a teoria Resource-Based View e a teoria Dynamic Capabilities. *Strategic Management Journal*, *8*(2), 342–351. https://doi.org/10.1017/CBO9781107415324.004

Rađenović, T. and B. K. (2017). Intellectual Capital As The Source Of Competitive Advantage: The Resource-Based View. Facta Universitatis, *14*(2), 127–137.

Rodgers, W. (2007). Problems And Resolutions To Future Knowledge-Based Assets Reporting. *Journal of Intellectual Capital*, *8*, 205–215. https://doi.org/10.1108/14691930710742808.205–215.

Salleh, K. (2015). Knowledge Management, Intellectual Capital, Intellectual Capital Management, and Sustainability Competitive Advantage : Past And Future Research. Research Collocium.

Sharabati, A., Ahmad, A., Shamari, N. S., Shamari, N. S. A., Durra, B. I., & Moghrabi, K. M. (2016). The Impact Of Intellectual Capital On Business Performance In Kuwaiti Telecommunication Industry. Int. J. Business Performance Management, Vol. 17, No. 4, pp 428-446.

Ulum, I., & Fitri Wijayanti, P. (2018). Intellectual Capital Disclosure of Muhammadiyah Universities: Evidence from 4ICU 2018. *Journal of Accounting and Investment*, *20*(1). https://doi.org/https://doi.org/10.18196/jai.2001113

Ulum, I., & Novianty, N. (2012). Analisis Faktor-Faktor Yang Mempengaruhi Pengungkapan Intellectual Capital Pada Official Website Perguruan Tinggi Indonesia. *Jurnal Dan Prosiding SNA - Simposium Nasional Akuntansi*, *15*, 1–22.

Ulum, I., Tenrisumpala, A., & Wahyuni, E. D. (2016). Intellectual Capital Disclosure: Studi Komparasi Antara Universitas Di Indonesia Dan Malaysia. Akuntabilitas, *9*(1), 13–26. https://doi.org/https://doi.org/10.15408/akt.v9i1.3582.

Ulum, I., & Fitri Wijayanti, P. (2018). Intellectual Capital Disclosure of Muhammadiyah Universities: Evidence from 4ICU 2018. *Journal of Accounting and Investment*, *20*(1). https://doi.org/10.18196/jai.2001113

Ulum, I., Tenrisumpala, A., & Wahyuni, E. D. (2016). Intellectual Capital Disclosure: Studi Komparasi Antara Universitas Di Indonesia Dan Malaysia. Akuntabilitas, 9(1), 13–26. https://doi.org/10.15408/akt.v9i1.3582.

Wendra, W., Sule, E. T., Joeliaty, J., & Azis, Y. (2019). Exploring Dynamic Capabilities, **Intellectual Capital And Innovation Performance Relationship: Evidence From The** Garment Manufacturing Retrieved. *Business: Theory And Practice*, *20*, 123–136. https://doi.org/https://doi.org/10.3846/btp.2019.12.

Windu, M., & Murwaningsari, E. (2019). Intellectual Capital, Competitive Advantage, Financial Performance And Company Value Among Banking Industries In Indonesia. Advances in Social Sciences Research Journal. Vol 6 No 4. Pp 78-89.

www.4ICU.com. (2019). 100 besar Universitas Terbaik pemeringkatan versi 4ICU.

Yaseen, S. G., Dajani, D., & Hasan, Y. (2016). The Impact of Intellectual Capital On The Competitive Advantage : Applied Study in Jordanian Telecommunication Companies. Computers in Human Behavior. 62, pp 168-175. http://dx.doi.org/10.1016/j.chb.2016.03.075 0747-5632/.

Yi Wu, H., Chen, J.-K., & Chen, I. S. (2011). Ways To Promote Valuable Innovation: Intellectual Capital Assessment For Higher Education System. Qual Quant (2012), *46*, 1377–1391. https://doi.org/10.1007/s11135-011-9451-z.

Yudhanti, C. B. H., & Shanti, J. C. (2011). Intellectual Capital dan Ukuran Fundamental Kinerja Keuangan Perusahaan. *Jurnal Akuntansi Dan Keuangan*, *13*(2), 57–66. Retrieved from https://doi.org/10.1002/hed.23537.

INTELLECTUAL CAPITAL DISCLOSURE AND COMPREHENSIVE INTELLECTUAL CAPITAL MANAGEMENT : EVIDENCE FROM UNIVERSITIES IN SOUTHEAST ASIA

ORIGINALITY REPORT

10%	8%	5%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Universitas International Batam Student Paper	2%
2	jurnalmandiri.com Internet Source	1%
3	Ihyaul Ulum, Ratu Rahma Harviana, Siti Zubaidah, Ahmad Waluya Jati. "Intellectual capital disclosure and prospective student interest: an Indonesian perspectives", Cogent Business & Management, 2019 Publication	1%
4	pinpdf.com Internet Source	1%
5	Submitted to Universitas Pelita Harapan Student Paper	1%
6	rigeo.org Internet Source	1%
7	www.ejbmr.org Internet Source	1%

8	adoc.pub Internet Source	1 %
9	worldwidescience.org Internet Source	1 %
10	Submitted to STIE Perbanas Surabaya Student Paper	1 %
11	Submitted to SIM Global Education Student Paper	1 %
12	Journal of Intellectual Capital, Volume 4, Issue 2 (2006-09-19) Publication	1 %

Exclude quotes	On	Exclude matches	< 1%
Exclude bibliography	On		