

INTELLECTUAL CAPITAL DISCLOSURE OF INDONESIAN UNIVERSITIES: A FIVE WAYS NUMERICAL CODING SYSTEM

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Abstract: The purpose of this study was to identify the practice of disclosing information about the Intellectual Capital (IC) on the official website of the university in Indonesia. This study uses 30 best universities official website in Indonesia (4ICU version 2018) as an object of study. IC components used in this study is a framework adopted from Leitner (2002) and modified by Ulum (2012) that consists of 46 items: 8 item human capital, structural capital 23 items, and 15 items of relational capital. The results showed that university in Indonesia still reveal the information in the form of a narrative on the average based on the official website of each university and the use of disclosure of information in the form of numbers, the IDR / monetary, and image / graph averaged from below 40%.

Keywords: Intellectual capital, Intellectual capital reporting/disclosure, Indonesian top universities.

1. Introduction

Intangible Assets and Intellectual Capital (IC) has been talked about since the last few decades, not only for academics but also for governments, regulators, companies, investors, and stakeholders. Since the late 1990s, various studies have produced even has two international journals that discuss the themes, they are journal of intellectual capital and the journal of knowledge management (Ulum, Tenrisumpala, & Wahyuni., 2016).

Society needs quality training focused on values and fosters critical thinking and ethical behavior. But it also requires a commitment to innovation, knowledge transfer to the community and that the university is a key tool for social, cultural and economic. No doubt, all directly affect the conceptualization and functions of these institutions and their reporting model (Ramirez, Tejada, & Manzaneque, 2016).

First, the IC is something invisible, second, the IC is closely related to knowledge, third, the IC offers a better opportunity for the university to find success in the future. Based on all of these benefits, not all organizational knowledge is the IC, but this is merely a useful knowledge for an agency to create a value (Giuliani & Marasca, 2011). Indonesia's intellectual capital, indirectly on PSAK 19 (revised 2009) provides a definition of intangible assets as nonmonetary assets identified without physical form (IAI, 2009).

Based on the research need of new management and reporting instruments stated that although it is said to be a new research and experiencing growth problem, there is an increasing number of papers and experiences on how to use the IC framework for public institutions in general, and HE (Higher Education) and the specific research centers. The main objective of this paper is twofold. On the one hand, to present the IC disclose designed specifically for the university, which suggests a battery indicator for resource-related research activities, and, on the other hand, to move one step forward and discuss the current challenges in setting standards for the university to manage and report their IC and difficulty in grasping the dynamics of the process (Sanchez, Elena, & Castrillo, 2009). It is also due to the pressure from the outside based on research conducted by Canibano and Sanchez (2009) that a change in management and administration grew in the universities because it is a necessity, and in almost all cases, the environment that require an institution to move and respond to the current situation. Ramirez et al. (2016) stated that the European public higher education institutions, with this change, tried to approach the concept of excellence associated to meet the needs of society at the university that implements it.

Preparation of ICs reports require discussion and definition of the objectives and

strategies of a university which will affect how the learning of an organization. IC reports regularly published, and based on information systems, to communicate information to see the development of the organization and supporting organizations to develop a clear strategy profile (Leitner, 2002). Thus, the detailed information and data owned by the IC to be important for managers who want to improve their decision making process also address the information needs of stakeholders, including the European Union, national governments, institutions national evaluation, researchers, students present and the future, supporters finance, partners, etc. (Sangiorgi & Siboni, 2017). In this case, a high percentage of respondents (90%) showed a great interest. Universities in Spain provides information on IC. Demand is primarily driven by the desire to ensure transparency of information and to gain knowledge of the Spanish language university accountability. The university stakeholders feel that the publication of information about the IC will make the contents of the current university accounting information models will be more relevant (Ramirez et al., 2016).

This study is a description of Intellectual Capital (IC) at top universities in Indonesia by 2018 4ICU version. 4ICU is the world university rankings that judgment is based on the popularity site which is owned by around 11,000 universities worldwide that have been accredited and dispersed in 200 countries. Indonesia was chosen as the research object because universities in Indonesia are included in the category of the best universities in the world.

Research on disclosure practices intellectual capital in universities is very rare, tend to have more research done on the IC regarding profit organization oriented-companies. Therefore, researchers interested in conducting research on the public, private, and Muhammadiyah university sector, namely the university by using the framework content analysis which is the object of this research is the best university in the State of Indonesia to develop a model framework (framework) reporting of intellectual capital (intellectual capital reporting - ICR) at university in Indonesia.

2. Theoretical background

2.1 Stakeholder theory

According to the theory of stakeholders, in a management organizations are expected to perform activities that are important to their stakeholders and report back those activities on stakeholders. This theory states that all stakeholders have a right to be provided information on how the organization's activities affect them (for example, through pollution, sponsorship, the initiative security, etc.), even when they choose not to use such information and even when they cannot directly play constructive role in the survival of the organization (Deegan, 2004),

2.2 Intellectual capital

Investing in education - intellectual capital - human capital is very important, as the growth and development of society built upon them. Intellectual capital move as a decisive role when a company or organization wants to achieve beneficial competition, becoming a hidden part of the value of a company, where it represents a source of intangibles of a company or organization that can not be measured using a matrix of financial as well as to measure the source tangible (Pribac, 2010; Ulum, Rizqiyah, & Jati, 2016).

2.3 Intellectual capital in university

At this time, the most popular media information and commonly used is the Internet, with the Internet allowing users to receive information quickly, precisely, accurately, and efficiently. Based on this, school or university begin to use the Internet to disseminate information and publications through the official website so that it can be used an object of research for intellectual capital disclosure (Ulum, Tenrisumpala, et al., 2016). On the other hand, Rossi, Nicolò, and Polcini (2018) also stated that the university is a public organization which must meet the public demand for oversight and greater accountability. Providing online information enables stakeholders to meet their information needs and to realize the value creation process which in turn creates good relationships with various stakeholder groups, facilitated support and approval.

This study offers scope for further development: to highlight the determinants of

ICD in Italian public universities on their website, the items tend to be expressed at a greater level and items that are still undervalued, these findings may help manage the right tools to increase the use of important communication channels and activates a circle or a better environment. In fact, by enhancing accountability, they can, in turn, increase trust and cooperation with the wider community. Moreover, since the web is available and easily updated, allows the dissemination of useful information and bring legitimacy to the use of public resources (Rossi et al., 2018). As well as with universities in Indonesia are expected through the implementation of the IC can improve the use of important communication channels and activates a circle or a better environment.

Outside the theoretical implications for academics, this study brings practical implications for university managers. The analysis revealed that one of the benefits of ICD for the university is to demonstrate the role and their contribution to the community, especially from the perspective of the ecosystem or environment. However, this implies the creation of an inclusive culture where create ICD transparent and comprehensive disclosure with stakeholders (Ndou, Secundo, Dumay, & Gjevori, 2018). Another practical implication of this study, that the university is subject to strict expenditure restrictions and are not used to think in terms of creating economic value within the meaning of the term. Through the establishment of the IC, the university can take advantage of the investment and can accumulate knowledge. IC be the primary driver in which the university and business

meet. Encourage universities to think in terms of value creation that enables it gives tangible form to the IC, which is an intangible asset that is strategic (Mariani, Carlesi, & Scarfò, 2018). Based on the observations, a university with stronger ICs as well, in many ways, the university is superior than the other (Cricelli, Greco, Grimaldi, & Dueñas, 2018). Therefore, on the other hand, a clear disclosure of IC will also be useful to improve the involvement of stakeholders generate a circle or a wise decision (Rossi et al., 2018).

3. Method

This research is descriptive research that describe two (or more) object of study in a topic or field. The object of the research is the top 30 Universities in Indonesia based on 4ICU 2018 which consists of public universities, private universities and muhammadiyah universities. Content analysis carried out on the official website of each university with the observation period between the date of August 20, 2018 until 20 September 2018.

During the process of data analysis from this study, the IC measurement framework developed to measure the annual report data. To reduce the level of abstraction, the first IC operationalized into three categories: external capital, internal capital, and, human capital. The three categories were broken down for easy coding and measurement (Low, Samkin, & Li, 2015),

Framework used is ICR for university adopted from Leitner (2002) and modified by Ulum (2012) composed of 46 items which are components of the IC. Table 1 are the ICR framework for university.

Table 1. Items Disclosure of Intellectual Capital

<i>Human Capital</i>		<i>structural Capital</i>		<i>Relational Capital</i>	
1. Number of Full-Time Professors	9.	Investment in electronic media	32.	The number of 3rd party	research foreign grants
2. The number and type of study		library			
3. Total Fulltime	10.	Income from licenses	33.	The number of 3rd party	research Higher Education
4. Variable Lecturers (guest lecture, outstanding lecture, expert lecture)	11.	The number of licenses granted	34.	International scientists at	universities
5. Lecturer achievements (awards, grants, funding programs)	12.	Measurement and laboratory services	35.	The number of conferences	held
6. Qualifications (number of positions) academic lecturers	13.	Vision courses	36.	Research / community service	
7. Competence academic lecturer (number of education level S1, S2, S3)	14.	The mission of the study program	37.	Scientific publications in	international journals
	15.	Aims and objectives	38.	Scientific publications in	journals organization
	16.	Delivery strategy (the submission)			

<i>Human Capital</i>	<i>structural Capital</i>	<i>Relational Capital</i>
8. Number of non-academic staff (librarians, laboratory technicians)	17. The technology used in the learning	39. Scientific publications in local journals
	18. Syllabus and lesson plan	40. Hits Internet sites
	19. learning techniques	41. <i>E-Learning</i>
	20. Facilities, infrastructure, funds for learning	42. Total achievements and academic reputation, interests, and talents of students
	21. Learning evaluation system (faculty student attendance)	43. Student services
	22. The trusteeship system	44. Service and utilization of graduates
	23. The average period of study	45. Graduates data recording/database
	24. Number of lecturers each student	46. Participation in the development of academic graduates
	25. The ratio of drop-outs	
	26. On average students each lecturer/supervisor	
	27. The average number of meetings / mentor	
	28. Academic qualifications supervisor	
	29. Availability guide mechanism final project	
	30. Target time thesis	
	31. Number of graduates / graduations	

Further, because the university is a non-profit organization, the component which originally referred to the corporation has been modified. For example, business collaboration is converted into a business partnership / university because the main focus of the university is to educate students, to be replaced by a reference to the student not customers. For example, customer satisfaction or customer loyalty converted into student satisfaction. The corporate culture is converted into a university culture. Employee converted into employee / researcher. In addition, several other components are integrated because they are more likely to be reported by the university. Examples of these components include: research projects, student database, employee experience in the profession, qualification of employees, and cultural diversity (Low et al., 2015).

3.1 Measurement

Data analysis was performed through content analysis framework where the analysis is done by providing a checklist of the IC items disclosed in the official website of each

university. After the checklist, the next stage is by calculating the items disclosed in each of the universities. Disclosure of information IC is weighted in accordance projections by using a numerical code (five way numerical coding system) as follows (Ulum, Septerina, Prasetyo, Mohamed, & Abdullah, 2017):

- 0: IC information item not reported
- 1: IC information item reported in a narrative format
- 2: IC information item reported in a number format
- 3: IC information items reported in the format rupiah
- 4: IC information items reported in the format of images / graphics

4. Analysis

This study was conducted on 20 August to 20 September 2018. The object of the study a total of 30 (thirty) universities or top universities consisting of public universities, private universities, and muhammadiyah universities according 4ICU 2018 in Indonesia.

Here is the result of descriptive statistics which contains the characteristics of the study sample in the form of the number of samples, the minimum value, maximum value, average, standard deviation, and variance:

Table 2. Descriptive Statistics

Information	N	Minimum	maximum	Sum	mean	Std. deviation	variance
Index	30	32.61	84.78	1828.26	60.9420	15.94924	254 378
Not_Disclosed	30	7:00	31.00	539.00	17.9667	7.33665	53 826
Narrative_Dis	30	8:00	30.00	599.00	19.9667	5.12925	26 309
Numeric_Dis	30	.00	19:00	179.00	5.9667	5.17609	26 792
Currency_Dis	30	.00	2:00	4:00	.1333	.43417	.189
Graphics_Dis	30	.00	10:00	59.00	1.9667	2.45628	6,033
Valid N (listwise)	30						

Based on table 2 of the 30 universities into the sample, it can be seen that the index variable has a value of 32.61 and a low of 84.78 with a highest value Average 60.94 and standard deviation (level data distribution) amounted to 15.95. This marks because the standard deviation is less than the average (mean) amount means the data is less varied.

Variable not Disclosed discount lowest score at 7 and 31 the highest with value average is 17.97 and standard deviation (level data distribution) of 7.34. This marks because the standard deviation is less than the average (mean) amount means the data is less varied. Variables disclosed in narrative form have lowest score of 8 and 30 the highest with value average is 19.97 and standard deviation (level data distribution) of 5.13. This marks because the standard deviation is less than the average (mean) amount means the data is less varied.

Variables disclosed in numeric form have lowest value is 0 and the highest grade 19, with value average is 5.97 and standard deviation (level data distribution) of 5.18. This marks because the standard deviation is less than the average (mean) amount means the data is less varied. Variables disclosed in currency form have lowest value is 0 and the highest grade 10 with value average is 0.13

and standard deviation (level data distribution) of 0.43. This marks because a standard deviation greater than the average (mean) amount means the data varies. Variables disclosed in currency form lowest value is 0 and the highest grade 2 with a mean value - ratanya 1.97 and standard deviation (level data distribution) of 2.46. This marks because a standard deviation greater than the average (mean) amount then the data varies.

5. Discussion, limitations and future research

Analysis conducted by content analysis is used to identify the item IC disclosed in the official website of the university in Indonesia. This analysis is done by giving a checklist. Giving checklist performed on the items disclosed in the official website of the university.

The bases used to give a value of "0" if the item is not reported, the value of "1" if the item is expressed in narrative form, a "2" if the item is expressed as a number, the value of "3" if the item is expressed in the form of rupiah and value " 4 "if the item is expressed in the form of pictures / graphics.

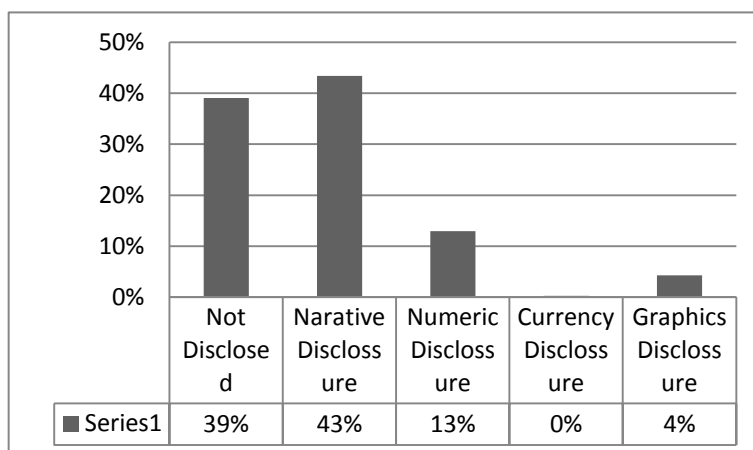


Figure 1. Percentage of intellectual capital reporting by Indonesia Universities

Figure 1 indicated that in 2018, there were 39% of information that is not disclosed ("0") and is the second-highest percentage. The most dominant information or most often not disclosed in the website of each university, among others, the number of full-time professors, the number of part-time lecturers, income from licensing, the number of licenses granted, delivery strategy, learning techniques, the trusteeship system, the number of faculty per student, the ratio drop out, the average - average students per tutor, the average - average number of meetings / supervisor, and the supervisor of academic qualifications. According to Leitner (2002) based on his studies at the University of Austria, in a project, a list of indicators developed by which some of these indicators are indicators that must, every university must publish it, the other is optional and can be used depending on the context and purpose. The design and selection of indicators based on i) the setting of measurement used previously by the University of Austria, ii) indicators proposed in the literature of intellectual capital, and iii) the findings based on the evaluation of research. A list of indicators contains 200 proposed, whereas only 24 which is an obligation for universities.

Based on the figure 4.1 There are 43% of the information disclosed in the form of a narrative (the value of "1") and is the highest percentage. According to (Leitner, 2002) in the category of influence, the award process of the performance was assessed. Differences stakeholders addressed is the scientific community, students, citizens, industry, and others - others. Naturally, it is the most

difficult element to be evaluated through quantitative data.

Based on the figure 4.1, there were 13% of the information disclosed in the form of numbers ("2") and is the third-highest percentage. That is because the use of tables is included in the numbers category.

Based on the figure 4.1, there are 4% of the information disclosed in the form of pictures / graphics ("4") and is the second from the lowest prosentase. But very rarely the university that disclose in the form of images / graphics while logically if universities included in the ranking of top universities, then the better the disclosure of information or view the website published. According to Tower, Plummer, Ridgewell, Goforth, and Tower (2008), inferential statistics reveal that less favorable university showed more intellectual capital, possibly in an attempt to improve their appearance and prospects. Surprisingly, universities larger and more prestigious shows no disclosure level higher intellectual capital. It is unclear whether this is because the smaller universities are more focused or that the larger universities have become complacent.

Disclosure of the last and the least by Figure 4.1 is the disclosure in the form of monetary / rupiah (value "3"), with a percentage amounting to 0%. According to Leitner (2002), Although most are non-financial indicators, but some of them also are financial. As already mentioned, the financial outcomes assessment is the most difficult. In the case of commercialization, the number of licenses and the sale of spin-out firms, is a possible answer to this problem. It's a rare thing that the university to reveal the number of licenses, commercialization, and sales of its

spin-out firms and other financial nature in general. Boubaker et al., (2012) states that the adoption of the Internet as a global practice for dissemination of financial information is a common thing for increasing the number of publicly traded companies worldwide. However Ndou et al. (2018) stated that taking into account the types of items in subcategories of infrastructure, it is easy to conclude that the disclosure relating to the quantitative or financial problems will not normally be reported through the online channel.

disclosure has been presented very well. However, it does not mean the disclosure in narrative form is a negative thing because there are some items that can only be expressed in narrative form. (Dumay, 2008) in his research stating that the narrative is the provision of meaningful explanation of why and how an organization deals with managing its IC measures in addition to expressing its IC. Thus, the narrative helps in understanding the organization's actions in relation to management IC, measurement and reporting and as a basis to clarify the IC from the perspective of the organizational subject that

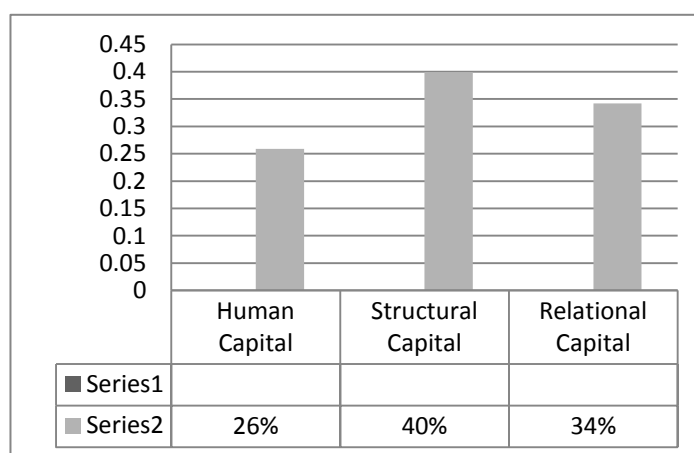


Figure 2. Intellectual capital disclosure by 30 top universities in Indonesia

Based on Figure 2, the highest IC disclosure contained in structural capital, with a percentage of 40% followed relational capital with a percentage of 34% and human capital with a percentage of 26%. This is due to structural capital components - there are many items which are predominantly university revealed that, they are investment in library electronic media, measurement and laboratory services, vision of study program, the mission of the study program, goals and objectives, the technology used in learning, syllabus and lesson plans, facilities, infrastructure, funding for the study, the average study period, the availability of a guide mechanism final project, and the number of graduates / graduations.

Based on the research shows there are many universities which revealed the information in narrative form while still there are less university that reveal the information in the form of a picture or a chart where the disclosure in the form of a picture or graph showing the highest score 4 indicating that the

make up the narrative. Even so, the disclosure in the form of a graph and number is more effective. It is also made clear by a study conducted by (Ulum, Tenrisumpala, et al., 2016) stating that four another higher education has actually been quite a lot of express items of IC, but mostly only in narrative form so that the values given only one, there are still very few higher education reveals item of IC in the form of charts and receive value of four which is why the number of votes into relatively low.

They simultaneously: platforms, aggregators (individual or organization that collects content from the web or other applications from online sources vary) news, messaging services and *e-commerce*. They are an important resource for customers and investors because they provide companies and stakeholders timely access to the open space where people can freely exchange ideas (Lardo, Dumay, Trequattrini, & Russo, 2017).

The results of data analysis showed that the highest IC disclosure in universities in Indonesia are belong to Muhammadiyah University of Surakarta and the disclosure of its low IC are Mercu Buana University and the

University of Telkom. Overall, despite the highs and lows of IC disclosure, but predominantly, throughout the university still reveal information about IC in the form of a narrative or less and the quality of the disclosure does not reveal the information at all or gets the value 0. While the disclosure in

the form of pictures or graphics. Only a couple universities that use them even though there are some that implement it. And lastly, the disclosure in the form of monetary rupiah or where only a few universities that use the disclosure in this form are Universitas Muhammadiyah

Surakarta, Brawijaya University, and the University of Indonesia. Research conducted by Boubaker, Lakhali, and Nekhili (2012) shows that web-based disclosure level is not associated with the company's performance is measured by return on assets. The company's performance will only be meaningful with the possibility to have a website. Logit regression showed that the profitability was significantly and positively associated with the presence of the web site. Companies that disclose information on the web tend to be more profitable than companies that did not. Use of the Internet as a means to communicate with

the market then driven by the competitiveness among industrial companies. It could be as dominant reasons why universities rarely to disclose information in the form of rupiah or monetary.

The limitations of this research are the possibility of subjectivity from researchers and also information and also information obtained from non-updated websites therefore it is hoped that this research can be carried out in the form of groups with the same objects all together so that a reliable comparison can be made.

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