

Intellectual Capital in Polytechnic

(The Disclosure)

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Abstract—Higher education is faced the increasing demand from owners (government, foundations) and the public to be transparent, that's why it need to disclose information about the social and economic activities, including intellectual capital. This study aims to determine the practice of intellectual capital disclosure at universities, especially polytechnics in Indonesia. The sample in this study was the polytechnic that was included in the Best category by the Ministry of Technology Research and Higher Education in 2018. Data analysis in this study used content analysis. Content analysis is carried out through a process of coding (both qualitative and quantitative data), and then grouped into categories that have been determined, so that the results can later be known patterns from the information reported. As a result, the most disclosed category is relational capital. The next categories most widely disclosed are human capital and structural capital.

Keywords: *intellectual capital, disclosure, polytechnic*

I. INTRODUCTION

Intellectual capital is one of the main asset of an organization, because these assets can create competitive advantage. Although the concept of intellectual capital was first developed as a framework for analyzing the contribution of intellectual resources in profit-oriented companies, it is now also widely used by nonprofit organizations for its benefit [1,2]. Higher education is faced the increasing demand from owners (government, foundations) and the public to be transparent, that's why it need to disclose information about the social and economic activities, including intellectual capital [2,3].

Roos et al. state that intellectual capital is all non-monetary and non-physical resources that are fully controlled by the organization and that contribute to the creation of organizational value [4]. The structure of intellectual capital is divided into human, structural capital, and customer or relational capital. Human capital is defined as the knowledge that employees take when they leave the organization. This includes people's knowledge, skills, experience and abilities. Structural capital is defined as knowledge within an organization. It consists of organizational routines, procedures, systems, culture, database and organizational culture [5]. Relational capital is defined as all resources related to the company's external relations, with customers, suppliers, or R&D partners. Some examples of these resources: image,

brand, customer loyalty, customer satisfaction, commercial strength, negotiating power [5].

At this time, the concept of intellectual capital began to be developed as a framework for analyzing the contribution of intellectual resources in university [6]. Presentation of intellectual capital's information is now very important in higher education institutions, because knowledge is the main output and input of these institutions. Higher education is faced the increasing demand from owners (government, foundations) and the public to be transparent, that's why it need to disclose information about the social and economic activities [7]. The importance of disclosure of university intellectual capital is the ongoing demand for greater information and transparency about its use to the public [8], especially because of the ongoing process of both academic and financial decentralization of higher education institutions [9].

Some researchers [10-14] have emphasized the limitations of annual reports as a tools of disclosure of intellectual capital, because they are not designed to provide intellectual capital information. Thus, there is a need to replace traditional reporting tools by exploring different data sources so that they can provide further information to stakeholders about intellectual capital [13,15,16]. Some experts have begun researching websites [17-19] with an awareness of their potential for organizations to improve their relationships with stakeholders [19].

Higher education institution also utilizes the internet to disseminate information and its applications to external users. The official website of higher education can be used as an object of research on intellectual capital disclosure (ICD). To increase the scope of research on intellectual capital reporting at universities and overcome the limitations of intellectual capital disclosure studies based on annual reports, this study explores new ways of expressing intellectual capital - university websites - and thereby contributing new knowledge about IC in the public sector. This study uses the university IC component, which was constructed by Ulum [20] which is a modification of Leitner [7]. The modification was carried out by considering the standard of higher education in Indonesia, as stipulated in the accreditation standards of the Study Program of the National Higher Education Accreditation Agency. This research was conducted at Polytechnic which was ranked the best in 2018 by the Ministry of Research and

Technology. This study is the first study to examine the disclosure of intellectual capital at the Polytechnic in Indonesia.

The need to provide intellectual capital information can also be linked to the theory of legitimacy. Guthrie et al. [21] suggest using this theory when dealing with the idea of "social contracts" between organizations and the communities in which they operate. According to Deegan [22], social contracts represent a plurality of expectations that society relates to activities managed by organizations. In this perspective, wider disclosure on the contribution of elements of intellectual capital to the value creation process will strengthen the legitimacy of the university.

Rossi et al., [23] also stated that the web can be a useful and effective communication tool for disclosing intellectual capital information, overcoming the limitations of annual reports [11,18,24]. The results of his research also showed, on average, each university revealed 19.76 items of intellectual capital (79% of total intellectual capital items) on its website. The most focus is on human capital disclosure (86% of total human capital items), followed by internal capital (81.5%) and external capital (70.3%).

II. METHODS

The population in this study were 25 polytechnics that were included in the category the Best Polytechnics in Indonesia in

2018 by the Ministry of Research, Technology and Higher Education, but only 23 websites can be accessed. The observation period is between July 17 July-August 20, 2019. The unit of analysis in this study is the Polytechnic website. The components of intellectual capital are constructed by Ulum [20] which is a modification of Leitner [7], including human capital, structural capital, and relational capital, which consists of 46 items (see the appendix 1). The data analysis method used was content analysis.

The first thing to do is identify the intellectual capital items that are disclosed on the web. Next, classify intellectual capital information into the categories of human capital, structural capital, and relational capital. After being grouped based on these categories, values are given to intellectual capital information. If there is one item that is disclosed on the web it will get a score of "1" and if not disclosed "0", then calculate how much information has been disclosed by the university. After that, descriptive analysis was carried out on three categories.

III. RESULTS AND DISCUSSION

The following table 1 presents a summary of content analysis based on the number of items disclosed on the three components analyzed and is sorted in the highest order of the Polytechnic that revealed 46 items.

TABLE I. INTELLECTUAL CAPITAL DISCLOSURE

No.	Name	Human Capital	Structural Capital	Relational Capital	Total	Percentage (%)
1	Politeknik Elektronik Negeri Surabaya	2	10	10	22	0.48
2	Politeknik Negeri Sriwijaya	2	11	8	21	0.47
3	Politeknik Negeri Semarang	6	7	7	20	0.43
4	Politeknik Negeri Malang	2	12	8	22	0.48
5	Politeknik Negeri Jakarta	7	7	8	22	0.48
6	Politeknik Negeri Jember	0	7	8	15	0.33
7	Politeknik Negeri Bandung	4	9	7	20	0.43
8	Politeknik Negeri Lampung	1	7	8	16	0.35
9	Politeknik Negeri Medan	3	9	6	18	0.39
10	Politeknik Negeri Pontianak	3	9	8	20	0.43
11	Politeknik Negeri Padang	4	8	10	22	0.48
12	Politeknik Negeri Ujung Pandang	3	6	7	16	0.35
13	Politeknik Perkapalan Negeri Surabaya	4	8	9	21	0.47
14	Politeknik Pertanian Negeri Kupang	4	6	7	17	0.37
15	Politeknik Pertanian Negeri Pangkajene Kepulauan	3	6	7	16	0.35
16	Politeknik Negeri Bali	4	7	8	19	0.41
17	Politeknik Negeri Samarinda	4	7	9	20	0.43
18	Politeknik Negeri Manado	4	9	8	21	0.47
19	Politeknik Negeri Banjarmasin	5	8	7	20	0.43
20	Politeknik Lhokseumawe	2	7	9	18	0.39
21	Politeknik Caltex	3	7	9	19	0.41
22	Politeknik Manufaktur Bandung	4	6	9	19	0.41
23	Politeknik Ubaya	1	7	6	14	0.30

From table 1 above, it can be seen that the greatest number of disclosures was only 48% conducted by the 4 Polytechnics. They are Politeknik Elektronik Negeri Surabaya, Politeknik Negeri Malang, Politeknik Negeri Jakarta and Politeknik Negeri Padang. The average disclosure of intellectual capital is 41%.

Table 1 is presented in order of the 2018 best polytechnic ranking by the Ministry of Research, Technology and Higher Education. The ranking itself is based on an evaluation of four components, namely the quality of Human Resources (HR), the quality of institutions; the quality of student activities and the quality of research and scientific publications. In general, not much items have been disclosed on the Polytechnic website.

The polytechnics that reveal the most intellectual capital are not the only ones who have the highest rank. Those in positions outside the top 10 also made disclosures above 41%. Awareness of the importance of intellectual capital has begun to be owned by several polytechnics, from 23 samples of 15 polytechnics revealed intellectual capital items of more than 41%.

Figure 1 below shows the amount of intellectual capital elements disclosed. The most disclosed element is relational capital, which is 41%. The next most disclosed are human capital and structural capital of 32% and 27%.

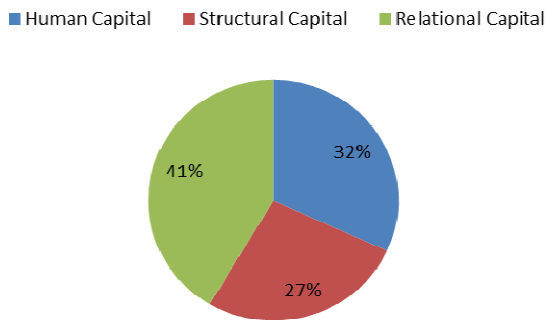


Fig. 1. Amount of intellectual capital disclosed.

The most disclosed items of the relational capital element are the number of conferences held, the amount of research and community service, and the number of student achievements. This category is expressed by Polytechnic as evidence that the task of higher education institutions as disseminators and producers of knowledge has been carried out well through research and applying the knowledge, they have to help the community as a form of community service.

For the human capital element, the most disclosed item is the amount of training. While the least disclosed item is the number of non-permanent lecturers. Of a total of 8 (eight) items, only about 5 (five) items were the most disclosed. Especially for the number of professors, only 4 Polytechnics made disclosures. Not many Polytechnic has Professor, because the title of professor is just been permitted for Polytechnic lecturers.

The structural capital component is important because Polytechnic want to provide information to all interested parties, both prospective students and the general public. The most disclosed items were the organization's vision and mission, facilities and infrastructure and the number of graduates with a percentage of disclosure of 100%.

The lack of IC disclosure on the official website of the Polytechnic (less than 50%) is due to the lack of encouragement from external parties of the higher education institution, namely the general public such as demands, aspirations, and requests for transparency and accountability regarding obtaining results and benefits from public funds [25]. Besides that, Polytechnics in Indonesia have not yet made many annual university reports, in contrast to universities in several European countries, Australia which has required

universities to have an annual report. The information presented in the annual report can be more accurate than the information available on the official university website.

IV. CONCLUSION

In general, Intellectual Capital disclosure on the Polytechnic official website is still low because none of them disclosed all the 46 items. Those who mostly disclosed intellectual capital were Politeknik Negeri Surabaya, Politeknik Negeri Sriwijaya, Politeknik Negeri Semarang dan Politeknik Negeri Malang, with a percentage of disclosure of 48%. The most disclosed element is relational capital (41%), followed by human capital (32%) and structural capital (27%).

As is usual research that uses content analysis, the potential subjectivity of researchers is difficult to avoid when checking the intellectual capital item list on the website. To minimize this, it is possible to check the list repeatedly and by involving the team. This study only describes how the disclosure of intellectual capital on the official website, for further research can be developed by examining the factors that influence the disclosure of intellectual capital on the website.

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