



# Perception of lecturers of public and private universities on the importance of university's intellectual capital: A case study in West Sumatra province of Indonesia

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## Article Info

### Article history:

Received 21 October 2020

Revised 11 January 2021

Accepted 7 February 2021

Available online 3 December

### Keywords:

human capital,  
intellectual capital,  
relational capital,  
structural capital,  
university's performance

## Abstract

The intellectual capital is an important element that must be managed seriously because it is believed to be able to increase the ranking of a university. This study was conducted to examine the lecturers' perceptions on the importance of intellectual capital in public and private universities in West Sumatra province of Indonesia. The sampled universities for this study were taken from [www.4icu.org](http://www.4icu.org) website. The Independent Sample *t*-test was used to test the hypotheses. The findings proved that there was difference on the perception on the importance of intellectual capital between the lecturers in public and private universities in West Sumatra. The public university lecturers gave a better perception of intellectual capital compared to the private university lecturers. In fact, with regards to the individual element of intellectual capital, the lecturers' perceptions on the relational capital were also different. However, there was no difference in perceptions between the lecturers in public and private universities concerning the human capital and structural capital.

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## Introduction

Higher education institutions play a vital role to develop a high quality of human resources in a country, that can be adapted to meet various challenges as impact of advancement of new era (Urdari, Farcas, & Tudor, 2017). Thus, Silvestri and Veltri, (2011), Naidu and Derani (2016) stated that the higher education institutions should raise their superiority and resources to face global

competition. According to Leitner (2004), university is a part of a nation's system of science, education, and innovation and knowledge producer as well. Generally, types of university are classified into two, namely public universities and private universities. Public universities have historically had a better institutional image when compared to private universities.

In Indonesia, according to the 1989 Law No. 2 in Indonesian Education Law, the difference between public and private universities only lies in the ownership, management and funding sources, while their basic curriculum is the same because they are developed on the basis of the national curriculum that is regulated by the ministry. Since the last decade, the growth of the number

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of universities in Indonesia has drastically increased. According to the Ministry of Research, Technology and Higher Education, Republic of Indonesia (2015), the number of public and private universities in Indonesia increased by around 19 percent and 5.40 percent respectively from 2005 to 2016. Anggraini, Ali, and Aza (2018a) stated that the increase growth of higher institutions in Indonesia is in line with the efforts of improving the quality of education, services and quality by their management.

The most valuable resources or main assets owned by a university are the lecturers and students, who integrate to form the organization (Pucci, Simoni, & Zanni, 2015; Secundo, Margherita, Elia, & Passiante, 2010). These assets can be used as an advantage in making of a comparison between universities, (Anggraini, Ali, & Aza, 2018b). Normally, such main assets cannot be identified clearly and they are referred to as intangible assets. The concept of intangible assets, known as intellectual capital, has been developed for non-profit organizations such as universities (Ramirez & Gordillo, 2014). Meihami and Karimi, (2014) stated that the university's intellectual capital (IC) consists of human capital, structural capital and relational capital, which are very important in line with the aim of the university to produce knowledge, research and human resources. All these things should receive a great deal of attention in the effort of improving university performance (Anggraini et al., 2018a; Lu, 2012; Sánchez, Elena, & Castrillo, 2009; Veltri, Mastroleo, & Linzatti 2012; Wu, Chen & Chen, 2012). They are the input and output of a university and are categorized as intangible (Canibano & Sanchez, 2008; Jones, Meadow, & Sicilia, 2009).

In regards to study on perception on intellectual capital in university, most past studies separated the focus, either on public or private universities. In fact, they did not look into the perception on intellectual capital comprehensively. For example, Chepchieng, Mbugua and Kariuki, (2006) studied university students' perception of lecturer-student relationships: a comparative study of public and private universities in Kenya. The study did not test the lecturers' perceptions on intellectual capital at the university. Naidu and Derani (2016) compared quality of education received by the students of private universities versus public universities in Malaysia. However, this study only examined aspects of the quality of education at the university from the perspective of students and did not investigate its influences on intellectual capital. In the case of Indonesia, Ulum, Harviana, Zubaidah, and Jati (2019) explored intellectual capital disclosure and prospective student interest from

an Indonesian perspective. Their study only investigated the perceptions of the universities' students in general, not specifically comparing the perception of public and private university students. Furthermore, their study also was also limited since it did not include the perceptions of lecturers, although it is known that the lecturers are a very important component in building knowledgeable students.

West Sumatra region was selected for this study as the province is known as one of the regions in Indonesia that has been long renowned as a shed of scholars and thinkers for the country. Therefore, one of the education aspects that should be given a great deal of attention by the universities in West Sumatra is that they must develop a high quality of education to produce a high quality human resource that is able to contribute knowledge at both national and international levels.

However, nowadays, the national rankings of the universities in West Sumatra issued by [www.4icu.org](http://www.4icu.org) is still far from satisfactory. Only two public universities from the province were in the top 50 Indonesian universities, while another one public university was out of the top 50 rankings and had the same ranking as six private universities in the province, where they were placed above 100<sup>th</sup> rankings. It was identified that factors that caused the unsatisfactory ranking were the different perceptions on intellectual capital consisting of human capital, structural capital and relational capital among the university members. Therefore, the implemented programs and activities were not able to achieve high ranking requirements.

For this reason, it is important to compare of the perceptions on intellectual capital of public and private universities' lecturers in West Sumatra province through an empirical study. It is believed that the comparisons will motivate the private and public universities to improve intellectual capital in the development of performance of a university. Through the comparisons, intellectual capital perception among lecturers of each type of university can be looked into seriously because later the lecturers may hold a management post at the university and will determine the direction to achieve the institution's goals.

## Literature Review

Intellectual capital (IC) represents knowledge-related intangible assets embedded in an organization (Leitner, 2004). According to Ramirez and Gordillo (2014), said intellectual capital comprised of three dimensions, namely human capital, structural capital and relational capital. Human capital (HC) is defined as the knowledge

that human resources (teachers, researchers, Ph.D. students, administrative staff etc.) carry home from organization at the end of the day. Structural capital (SC) represents the knowledge that, on the contrary, at the end of the working day in the organization, remains and includes principles of university governance, organizational routines, procedures, systems, culture, databases, publications, intellectual property, etc. Relational capital (RC) is defined as all resources associated with the external relations of the organization, such as customers and other organizations, suppliers, research partners, government, (Ramirez & Gordillo, 2014).

A research conducted by Cricelli, Greco, Grimaldi, and Dueñas, (2018) has proved that public higher education tends to be more expressive in disclosing intellectual capital than private universities. Naidu and Derani (2016) stated that there is not much difference between public and private universities from the perspective of students on satisfaction and quality. Comparison of intellectual capital disclosure between universities in Indonesia and Malaysia tends to disclose more information in a narrative format, (Ulm et al., 2019).

Intellectual capital is an important component for universities from the perspective of the Stakeholders Theory (Cricelli et al., 2018; Pedro, Alves, & Leitao, 2020). Related to that theory, they said that all stakeholders, both internal and external, have the right to access information about university activities for satisfying the community in greater supervision and accountability. Based on the above-mentioned theory, the development of this research hypotheses for this study were as follows:

*H1*: There is a difference in perception of the importance of intellectual capital between lecturers of public and private universities.

Human resource is the most important factor that determines the performance of a university (Shehzad, Fareed, Zulfiqar, Shahzad, & Latif, 2014; Zlate and Enache, 2015). Teaching capacity and research competence of a lecturer is a very important human resource in the public and private university lecturers (Cadez, Dimovski, & Groff, 2017; Cricelli et al., 2018). Human capital of public and private universities among students and lecturers is seen differently in terms of socio-cultural, political, religious and racial background (Barbosa, Vale, Vale, & Branco, 2016). Thus, human capital is a major resource as well as a driver of higher education management that encourages performance of public and private universities

*H1a*: There is a difference in perception of the importance of human capital between lecturers of public and private universities

Pedro, Leitão, and Alves, (2019) classified structural capital into company's culture, organizational culture, organizational structure, organizational learning, operational process and information system. Generally, the structural capital of organizations comprises infrastructure, system policies and procedures (Khalique, Shaari, Isa, & Noridah 2013) According to Chatterji and Kiran (2017), Pedro et al., (2020), Ramirez and Gordillo, (2014), structural capital mainly provides the environment that supports individuals to invest their human capital to create the innovation, creativity and organizational strategies and leverage its knowledge to enhance private and public university performance. Structural capital creation of knowledge by individuals is useless without a structure to determine how that knowledge leads to be better products, (Hejazai, Ghanbari, & Alipour, 2016).

*H1b*: There is a difference in perception of the importance of structural capital between lecturers of public and private universities

Relational capital is defined as an interlink between organizations and their customers, (Virzcaino, Gutierrez, Barrea, & Ramos, 2016). Pedro et al. (2020) stated that relational capital university is a network of cooperation between educational and non-educational institution companies, local governments, communities. Cooperative relationships with the public and private universities in the form of training activities, international student exchanges and international recognition are part of the university's relational capital, (Paoloni, Cesaroni & Dermartini, 2019). Therefore, public and private universities must have a strong network of cooperation with many stakeholders because it can provide benefits for the university, (Anggraini et al., 2018a). Relational capital serves as a means for universities to promote and contribute to economic development by transferring knowledge both internally and externally through research activities (Lu, 2012; Wahid, Abu, Latif, & Smith, 2013).

*H1c*: There is a difference in perception of the importance of relational capital between lecturers of public and private universities

## Methodology

This study used a quantitative approach to empirically prove the lecturers' perceptions of the importance of intellectual capital and its relevant items in the sampled universities. The sampling technique used was

nonprobability. The research population included all lecturers in public and private universities in West Sumatra. Samples from the population were taken from data released by the Indonesian University Ranking the website, [www.4icu.org](http://www.4icu.org). Only 9 (nine) universities in West Sumatra consisting of 3 (three) public universities and 6 (six) private universities were in the Indonesian University Ranking published by [www.4icu.org](http://www.4icu.org) on November 30, 2018. This study intentionally chose the website since it is the only website which provides the ranks of the Indonesian University Ranking including the universities in West Sumatera.

A total of 417 questionnaires were distributed to the respondents of this study. The questionnaires were then collected within two weeks after submission. After the collection, it was found a total of 304 questionnaires got responses from the respondents, and data processing proceeded. The questionnaires which had responses consisted of 152 from public universities, and 152 from private universities. The response rate was 88.12 percent, which can be categorized as very high-level response, since according to Mardiyah and Gudono (2001), the level of response rate in Indonesia was usually in the range of 10 percent –16 percent of the total samples.

#### *Research Instrument*

The instrument for measuring intellectual capital was adopted from Ramirez, Santos and Tejada (2011). This instrument consists of 1 to 5 Likert scales, where scale 1 is “not at all important” and scale 5 says that “it is very important”. Human capital is the amount of explicit and hidden knowledge from university staff (teachers, researchers, managers, administration and service staff) obtained through formal and non-formal education and refresher processes included in their activities. A total of 12 questions were sent for human capital. Structural capital is explicit knowledge relating to the internal processes of dissemination, communication and management of scientific and technical knowledge in universities. A face-to-face interview technique was used to obtain the data from the respondents.

Structural capital includes organizational capital and technology capital. Organizational capital is an operational environment that stems from interactions between research, management and organizational processes, organizational routines, corporate values, interagency procedures, quality and scope of information systems, etc. Technology capital is technology resources available at universities, such as bibliographic and documentary resources, archives, technical development,

patents, licenses, software, databases, etc. A total of 13 questions were asked for structural capital. Relational capital is an extensive collection of economic, political and institutional relationships that are developed and upheld by universities and their non-academic partners, namely, companies, non-profit organizations, local governments and the community at large. This also includes the perception of other shaping of the university; image, appeal, reliability, etc. A total of 16 questions were sent for relational capital.

#### *Data Analysis*

Hypotheses were tested by using the Independent Samples *t*-Test. This hypothesis testing is intended to determine the average difference in the perceptions of lecturers from each public and private university. Independent Samples *t*-Test based on the results of Levene's Test was used to make a decision. The basis for the decision is if the probability is greater than .05, then hypothesis is rejected, meaning that there is no significant difference between the sample groups. Conversely, if the probability is smaller than .05, then hypothesis is accepted, meaning that there is a significant difference between the sample groups.

#### **Results and Discussion**

The results of testing hypothesis 1 for elements of intellectual capital consisting of human capital, structural capital and relational capital is presented in Table 1.

There was significant difference on the perception of the importance of intellectual capital between public and private universities ( $.49 < .05$ ) as seen in Table 1. These results indicated that the H1 hypothesis is accepted because they are significant. The results of this study indicated that public lecturers perceive that intellectual capital is more important when compared to the private university lecturers. This is due to the roles and responsibilities of public universities being managed and financed by the government. Thus, public universities must carry out both the mission and government programs to develop higher learning institution in the country. Meanwhile, private universities are managed and funded by educational foundations, and very much depend on the finance from the foundations. Hence, development of intellectual capital also depended on the financial status. This is in accordance with research conducted by (Pedro et al., 2020; Tjahjadi, Soewarno, Astri, & Hariyati, 2019; Ulum et al., 2019; Urdari et al., 2017).

**Table 1** Independent Sample T Test for Lecturers' Perception of Intellectual Capital

Variable	Group	N	Mean	SD	t	p	Result hypothesis
Intellectual Capital (IC)	Public	152	182.493	13.021	1.944	.049*	H1 Supported
	Private		179.454	14.219			
Human Capital (HC)	Public	152	52.961	5.321	1.020	.309	H1a Rejected
	Private		52.336	5.365			
Structural Capital (SC)	Public	152	56.783	5.937	1.300	.195	H1b Rejected
	Private		55.882	6.149			
Relational Capital (RC)	Public	152	71.164	5.753	2.099	.037*	H1c Supported
	Private		69.592	7.226			

Note: \* $p < .05$ .

Sources: Data processed with IBM SPSS Statistics for Windows, Version 21.0.

However, there was no significant difference on the perception of the importance of human capital and structural capital between public and private universities ( $.309 < .05$ ) and ( $.195 < .05$ ) as seen in Table 1. The perception of lecturers at both types of university was the same because they have the same goals in improving the quality of human capital. Among the efforts that have been made by both types of university is encouraging lecturers to undertake further studies or trainings. It is concluded that increasing knowledge for lecturers including professional competence, social competence, and motivation, are the key factors for organizational success, and it can affect university performance (Mohammadi & Karupiah, 2019). In addition, it is expected to be able to increase accreditation, and compete with state and global universities. The results of this study support the research (Barbosa et al., 2016; Cricelli et al., 2018).

Besides that, the results also proved the same perception between public and private university lecturers on the structural capital of universities. They realize that facilities and infrastructure, databases, organizational structures, process guidelines, strategies, routines, software, hardware are very important to support the optimal performance of a university. This is agreeing with statements by past studies (Hejazai et al., 2016; Pedro et al., 2020; Secundo, Perez, Martinaitis, & Leitner, 2017; Ulum et al., 2019).

Furthermore, there was significant difference on the perception of the importance of relational capital between the lecturers of public and private universities ( $.037 < .05$ ) as seen in Table 1. The difference in the perceptions of the lecturers is due to less optimal use of collaboration opportunities such as research, publication, lecturer

internships, community service, student creativity programs, innovation incubators, anti-corruption education, and the anti-radicalism movement made by the private universities. Such collaborations will improve the quality of higher education, thereby increasing the nation's competitiveness. The intention of public and private universities in building collaboration are the same, but sources of management funds made the differences. Therefore, private universities have to be more aggressive in establishing relationships with various external institutions in order to further enhance the credibility of the institutions. (Naidu & Derani, 2016; Paoloni, Cesaroni & Dermartini, 2019; Pedro et al., 2020)

The differences in each of the human capital items between public and private universities can be seen in detail in Table 2.

The results of this study proved that public universities need more support and training for career development of lecturers, administration and staff as well as student mobility while the respondents at the private universities felt that the university lacked adequate support for the career development of lecturers and staff and student resources and mobility. The difference of each item of the structural capital items in detail can be seen in Table 4. The results of the study showed a significant difference of 3 (three) items out of 13 (thirteen) question items for structural capital elements. They were installation and internal resources that support pedagogical qualifications and innovation ( $t = 3.261, p < .01$ ); teaching organization and management ( $t = 2.191, p < .01$ ) and technological capacity ( $t = 3.25, p < .05$ ). The results of this study showed that public universities provide a high standard lecture material. This is able to improve the university ranking.



**Table 2** The difference in items of human capital between public and private universities

Question item	Group	N	Mean	SD	t	p
Typology of university staff (historical data on the increase and decrease of staffing number, staff age structure, type of contracts, etc. (HC1))	Public	152	4.309	0.791	2.589	.010*
	Private		4.079	0.759		
Teaching and research staff academic and qualifications (HC2)	Public	152	4.625	0.573	-0.509	.611
	Private		4.658	0.553		
Mobility of teacher and researcher (HC3)	Public	152	4.355	0.694	-0.719	.473
	Private		4.415	0.741		
Scientific productivity (books) (HC4)	Public	152	4.454	0.574	0.863	.389
	Private		4.395	0.621		
Teaching and research professional qualifications (HC5)	Public	152	4.487	0.598	1.342	.181
	Private		4.388	0.681		
Mobility of graduate students (HC6)	Public	152	4.237	0.678	2.205	.028*
	Private		4.072	0.621		
Efficiency of human capital (HC7)	Public	152	4.540	0.629	2.683	.008**
	Private		4.329	0.735		
Teaching capacities and competence (HC8)	Public	152	4.625	0.562	1.359	.175
	Private		4.533	0.619		
Research capacities and competence (HC9)	Public	152	4.533	0.586	.666	.506
	Private		4.487	0.612		
Capacity for teamwork (HC10)	Public	152	4.428	0.637	1.588	.113
	Private		4.309	0.663		
Leadership capacity (HC11)	Public	152	4.566	0.616	1.605	.110
	Private		4.447	0.669		
Training activities (HC12)	Public	152	4.388	0.662	2.217	.027*
	Private		4.211	0.734		

Note: \*\* $p < .01$ ; \* $p < .05$ .

Sources: Data processed with IBM SPSS Statistics for Windows, Version 21.0.

In contrast to the private universities, the weight of lecture material is lower than that of the public university standard, (Anggraini et al., 2018b; Tjahjadi et al., 2019; Urdari et al., 2017). Besides that, most public universities have utilized digital technology, especially information technology as a strategy to improve the quality and excellence of higher education institutions. The technology has been applied in all activities including curriculum, facilities, services, and learning systems. It can be done nicely as the support of human resources and funding from the government is in line with the obligation of the government to improve the public universities in Indonesia whereas the private universities' ability in building technological capacity very much depends on the financial condition of the university management (Cadez et al., 2017).

The average difference of each item of the relational capital is shown in Table 4. The results of the study showed a significant difference was found at 2 (two) out of 16 (sixteen) question items. They were the effectiveness of undergraduate and postgraduate teaching (average duration of study of graduate dropout rates) ( $t = 3.980$ ,  $p < .01$ ); relations with the community at large (institutional representation of external organizations, and cooperation in national and international projects, etc.) ( $t = 2.499$ ,  $p < .05$ ). This is because the lecturers at public universities really focus on their profession because most of them are civil servants, and they are not allowed to have businesses or carry out other activities outside the campus as stated in the government regulations. Besides that, lecturers at public universities provide true academic knowledge, both theory and practice. Therefore, the effectiveness of teaching is

**Table 3** The difference in items of structural capital between public and private universities

Question Item	Group	N	Mean	SD	t	p (2-tailed)
Installations and material resources supporting pedagogical qualification and innovation (SC13)	Public	152	4.415	0.624	3.261	.001**
	Private		4.177	0.642		
Installations and material resources supporting research and development (SC14)	Public	152	4.421	0.636	0.362	.718
	Private		4.395	0.632		
The institution's assessment and qualification processes (SC15)	Public	152	4.389	0.576	1.472	.142
	Private		4.278	0.739		
Organisational structure (SC16)	Public	152	4.342	0.631	0.171	.864
	Private		4.329	0.707		
Teaching management and organisation (internal communication of result, periodical exchange with foreign teachers, teaching incentives, etc.) (SC17)	Public	152	4.309	0.622	2.191	.029*
	Private		4.145	0.685		
Research management and organisation (internal communication of results, efficient management of research projects, research incentives, these read, etc.) (SC18)	Public	152	4.316	0.603	0.279	.780
	Private		4.296	0.629		
Organisation of scientific, cultural and social events (SC19)	Public	152	4.290	0.637	0.091	.928
	Private		4.283	0.624		
Productivity of the administration, academic and support services (SC20)	Public	152	4.441	0.595	0.570	.569
	Private		4.401	0.612		
Organisation culture and values (SC21)	Public	152	4.303	0.641	0.444	.657
	Private		4.270	0.651		
Efforts innovation and improvement (expenditure on innovation, staffing level, etc.) (SC22)	Public	152	4.461	0.640	-0.187	.852
	Private		4.474	0.586		
Management quality (SC23)	Public	152	4.474	0.597	1.286	.199
	Private		4.382	0.650		
Information system (document processes, database, ITC use, etc.) (SC24)	Public	152	4.625	0.536	1.538	.125
	Private		4.520	0.651		
Technological capacity (total expenditure on technology, availability and use of computer programmes, intranet/internet use, etc.) (SC25)	Public	152	4.612	0.553	3.257	.001**
	Private		4.362	0.768		

Note: \*\* $p < .01$ ; \* $p < .05$ .

Sources: Data processed with IBM SPSS Statistics for Windows, Version 21.0.

stronger, and students are really diligent and able to mentally retain all the material given. Although some lecturers at private universities really focus on being lecturers, some of the lecturers also have businesses at outside, (Paoloni et al., 2019). This is possible because many lecturers at private universities are not bound by government regulations because most of them are not civil servants. Cooperation of private universities with other organization is rarely found at both national and international levels. This is due to foreign cooperation

partners usually looking for collaborative partners who are of the same level or quality because they want both parties to have benefits.

The results of this study proved that there are differences in the perception among lecturers at the public and private universities in West Sumatra. It means public university lecturers have indicated important perception of intellectual capital for universities when compared to the private universities' lecturers. The results of this study supported the findings of

**Table 4** The difference in items of relational capital between public and private universities

Question Item	Group	N	Mean	SD	t	p
Effectiveness of graduate teaching (average duration of studies, dropout rate, graduation rate, etc.) (RC26)	Public	152	4.329	0.639	3.980	.000*
	Private		4.007	0.768		
Student satisfaction (RC27)	Public	152	4.566	0.536	0.589	.557
	Private		4.526	0.630		
Graduate employability (RC28)	Public	152	4.513	0.587	0.093	.926
	Private		4.507	0.651		
Relations with students (capacity of response to student's needs, permanent relations with graduates, etc.) (RC29)	Public	152	4.447	0.584	0.000	1.000
	Private		4.447	0.584		
Relations with students (capacity of response to student's needs, permanent relations with graduates, etc.) (RC29)	Public	152	4.474	0.630	1.881	.061
	Private		4.336	0.650		
Relations with society in general (institutional representation in external organisations, collaboration in national and international projects, etc.) (RC31)	Public	152	4.467	0.598	2.499	.013**
	Private		4.283	0.685		
Applications and dissemination of research (dissemination of result, social appropriateness of research) (RC32)	Public	152	4.362	0.646	0.181	.857
	Private		4.349	0.623		
Relations with media (RC33)	Public	152	4.210	0.725	0.000	1.000
	Private		4.210	0.725		
University image (RC34)	Public	152	4.599	0.555	-1.182	.238
	Private		4.671	0.512		
Collaborations and contacts with public private organisations (RC35)	Public	152	4.388	0.553	-1.480	.140
	Private		4.486	0.609		
Collaboration with other universities (RC36)	Public	152	4.473	0.597	-0.387	.699
	Private		4.500	0.587		
Strategic links (RC37)	Public	152	4.500	0.564	0.391	.696
	Private		4.474	0.608		
Relations with quality institutions (RC38)	Public	152	4.572	0.535	-0.106	.916
	Private		4.579	0.546		
The regional, national, and international reputation of the university (RC39)	Public	152	4.671	0.499	0.555	.579
	Private		4.638	0.534		
Social and cultural commitment (RC40)	Public	152	4.408	0.602	1.259	.209
	Private		4.322	0.582		
Environmental responsibility (RC41)	Public	152	4.572	0.615	0.393	.695
	Private		4.546	0.550		

Note: \*\* $p < .01$ ; \* $p < 0.05$ .

Sources: Data processed with IBM SPSS Statistics for Windows, Version 21.0.

Secundo et al, (2017); Wang, Wang, and Liang, (2014), who said that academics' perceptions of intellectual capital in public and private universities are important for maintaining the academic quality. This proved that intellectual capital is the most important and strategic resource for universities, Ramirez and Gordillo, (2014). Also, Naidu and Derani

(2016) found that there is not much difference between public and private universities in terms of education and student satisfaction. They concluded that the universities must be more transparent in the performance evaluation system, financial allocation and providing facilities (Lu, 2012; Sánchez, Elena, & Castrillo, 2009; Secundo et al., 2017).



The results of hypotheses 1a (human capital) and 1b (structural capital) showed the same perception of public and private lecturers. The average respondent stated that the elements of human capital and structural capital are important for both public and private universities. However, only 4 items out of 12 human capital items and 3 out of 13 structural capital items indicated different perceptions from the lecturers of public and private universities. This finding is consistent with Ramirez et al. (2014), who mentioned that the university's main goal was to produce and disseminate knowledge through academic research and human resources as its biggest investment. Meanwhile hypothesis 1c proved that there is a significant difference of 2 (two) of out 16 (sixteen) items of the relational capital question element. The results of this study are consistent with (Hejazai et al., 2016; Pedro et al., 2020; Tjahjadi et al, 2019).

### Conclusion and Recommendation

In general, the findings of the study extended previous research contributions on intellectual capital in universities, especially the perception of lecturers of public and private universities on the importance of university's intellectual capital. This study has also filled the gap in research literature by examining the previously mentioned matter. Apart from that, this study implied strengthening the theory of stakeholders, saying that both internal and external parties have the right to access information about university activities for satisfying the community.

Specifically, the results of this study showed that the public university lecturers showed an important perception of intellectual capital for universities compared to the private university lecturers. The findings stressed that academics' perceptions on intellectual capital in public and private universities are important for maintaining quality academics. This also proved that intellectual capital is the most important and strategic resource for public and private universities in West Sumatra province. It is also suggested that the private universities should be more aggressive in establishing relationships with various external institutions at both national and international levels. Besides, it is also crucial to build a cooperation with the community in an effort to further enhance the credibility of the institution. The private universities must also increase investment in managing intellectual capital. All the-above suggestions can be realized by private universities through applying tight regulations on staff in order to improve their potential and better focus on responsibilities as lecturers.

Other than that, private universities also need to build strong financial support not only for developing the education facilities but also for cultivating their human resources so that they will be a really intangible asset and be able to bring continual survival for the university. In the end, this will increase the university performance, which later on will appeal to students and the public to make a priority in pursuing study at private universities.

Despite the contributions of the study, this study has limited focus on three elements of intellectual capital only i.e. human capital, structural capital and relational capital of intellectual capital. Besides, this study took account of the samples from the universities in West Sumatra province only through a case study. Therefore, it is recommended that wider samples from a wide range of regions are considered for further study.

### Conflict of Interest

There is no conflict of interest.

### Acknowledgement

The authors would like to thank respondents from public and private universities in West Sumatra province of Indonesia, for their excellent cooperation in this research.

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