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Article

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Cogent Business & Management

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Suggested Citation: Istikhoroh, Siti; Moeljadi P; Sudarma, Made; Aisjah, Siti (2021) : Does social media marketing as moderating relationship between intellectual capital and organizational sustainability through university managerial intelligence? (empirical studies at private Universities in East Java), Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 8, Iss. 1, pp. 1-38,
<https://doi.org/10.1080/23311975.2021.1905198>

This Version is available at:

<https://hdl.handle.net/10419/270250>

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To cite this article: Siti Istikhoroh, Moeljadi, Made Sudarma & Siti Aisjah | (2021) Does social media marketing as moderating relationship between intellectual capital and organizational sustainability through university managerial intelligence? (empirical studies at private Universities in East Java), Cogent Business & Management, 8:1, 1905198, DOI: [10.1080/23311975.2021.1905198](https://doi.org/10.1080/23311975.2021.1905198)

To link to this article: <https://doi.org/10.1080/23311975.2021.1905198>



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Received: 29 November 2020
Accepted: 26 January 2021

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BANKING & FINANCE | RESEARCH ARTICLE

Does social media marketing as moderating relationship between intellectual capital and organizational sustainability through university managerial intelligence? (empirical studies at private Universities in East Java)

Siti Istikhoroh^{1*}, Moeljadi², Made Sudarma² and Siti Aisjah²

Abstract: This study aimed to identify and analyse the sustainability of private universities in East Java in terms of their ability to utilize knowledge-based strategic assets. The approach used was the quantitative approach (positivism), using a survey research method. The data obtained was number (score or value), analysed using statistical techniques called Structural Equation Models or SEM. The results of statistical testing were used to explain the relationship between variables, including Organizational Sustainability, Intellectual Capital, University Managerial Intelligence, and Social Media Marketing. From the data analysis, we concluded that a) Intellectual Capital has a positive and significant effect on the Sustainability of Private Higher Education Organizations in East Java, b) Intellectual Capital has a positive and significant effect on University Managerial Intelligence in Private Universities in East Java, c) University Managerial Intelligence has an effect on Organizational Sustainability of Private Universities in East Java, d) University Managerial Intelligence mediates the influence of Intellectual Capital on the Sustainability of Private Higher Education Organizations in East Java, e) Social Media Marketing does not moderate the influence of Intellectual Capital on the Sustainability of Private Higher Education Organizations in East Java, f) Social Media Marketing does not moderate the influence of University Managerial Intelligence on the Sustainability of Private Higher Education Organizations in East Java.

ABOUT THE AUTHOR

This study aimed to identify and analyse the sustainability of private universities in East Java in terms of their ability to utilize knowledge-based strategic assets. The approach used was the quantitative approach (positivism), using a survey research method. The data obtained was number (score or value), analysed using statistical techniques called Structural Equation Models or SEM. The results of statistical testing were used to explain the relationship between variables, including Organizational Sustainability, Intellectual Capital, University Managerial Intelligence, and Social Media Marketing.

PUBLIC INTEREST STATEMENT

This paper would to examine the impact of Social Media as marketing tools. The Sustainability of Higher Education also discussed here, related with intellectual capital management.

Subjects: Management Education; Management of Technology & Innovation; Leadership; Marketing

Keywords: Social media marketing; moderating relationship; intellectual capital; organizational sustainability; private universities

1. Introduction

Managing the internal activities of the organization is one of the responsibilities of modern executives whose primary objective is to accelerate the realization of organizational goals and create a more sustainable organizational life cycle. An analytical approach called Resource Based Theory emphasizes the role of strategic resources to gain a level of competitive advantage (Acar & Polin, 2015; Kangas, 2011). Resource Based Theory which was pioneered by Edith Penrose in the 1959 “Theory of the Growth of the Firm” suggests that company resources are heterogeneous, not homogeneous. Productive services that come from company resources will provide a unique character for each company (Barca, 2018; Kor & Mahoney, 2004). Resource Based Theory explains that companies can gain competitive advantage by owning, controlling, and utilizing strategic assets, including tangible assets and intangible assets (Acedo et al., 2006; Wernerfelt, 1984). Resource Based Theory and its derivatives have become the dominant paradigm or at least have risen to become a corporate theory from a strategic perspective.

Information about strategies for building sustainability in higher education institutions is still minimal. It can even be said that it is still in the early stages of learning. Even though most universities understand the importance of sustainability, they do not have a specific strategy on how to secure sustainability for their organizations. Several factors hindering the formulation of the sustainability concept for Higher Education include the lack of an external stakeholder engagement process, a lack of materials or criteria that can be included in the formulation, and the absence of an institution that has the authority to formulate or evaluate the concept of sustainability (Ceulemans et al., 2015; Lozano, 2011). Most universities are only concerned with the importance of sustainability through a statement of the vision of the organization in various versions, for example, as an educational institution capable of producing professional graduates in creating a healthy society and understanding the concept of sustainability (Katrinli et al., 2017).

The weaknesses of the Higher Education’s formulation of the concept of sustainability are not only related to the institution that is authorized to determine sustainability criteria, evaluate, and receive sustainability reporting but also regarding the depth of concept and content of what is formulated and reported (Fonseca et al., 2011; Lopatta & Jaeschke, 2014). This situation is partly due to the lack of research on the concept of sustainability in Higher Education (Ceulemans et al., 2015) and the absence of a generally accepted theory to formulate the concept of sustainability for Higher Education. Some researchers, like Sanusi et al. (2008), believe that higher education sustainability, can be achieved through poverty reduction and higher education sustainability can be done through curriculum development (Dmochowski et al. (2016). On the other hand, Jose & Chacko, (2017) believes that the sustainability of Higher Education can be measured through the application of the Triple Bottom Line (TBL) concept, namely by aligning the achievement of organizational goals with economic, social and environmental interests.

Table 1 shows the development of the number of private universities in East Java which in the Annual Report of the Ministry of Research, Technology and Higher Education in 2011 to 2017 to obtain an overview of the level of sustainability of private universities in East Java.

Table 1 reveals that the number of private universities in East Java is decreasing each year. In the 2011/2012 school year, the Ministry of Research, Technology and Higher Education reported that the number of private universities in region 7 of East Java was 330 units. From that figure, it continued to decline to 324 units of private universities in the 2018/2019 academic year. This

Table 1. Development of the number of Universities In East Java for the academic years 2011/2012 to 2018/2019

Academic year	College Status	
	State	Private
2011/2012	11	330
2012/2013	13	326
2013/2014	15	363
2014/2015	17	326
2015/2016	17	329
2016/2017	17	328
2017/2018	17	328
2018/2019	17	324

Source: Ministry of Research, Technology and Higher Education Annual Report (2019)

situation does not happen to State Universities whose numbers were always constant or growing. The fluctuation in the number of private universities shows that the level of sustainability of private universities in carrying out their functions as universities is still uncertain.

To identify the strategic assets of higher education, this study assumed that all assets that come from knowledge are intangible strategic assets (intangible assets) that will provide added value to the organization to improve performance. The role of Higher Education as a knowledge-based organization in which various kinds of knowledge are developed (Gretchenko et al., 2018; Sizer, 2001) as well as a producer of reliable human resources in the field of science (Adams & Mader, Geoffrey Scott and Dzulkifli, 2013) is the reason for the establishment of “knowledge-based assets” as a strategic asset for higher education. Bontis et al. (1999) reviews four models of measurement of knowledge as intangible assets, namely 1) Human Resource Accounting; 2) Economic Value Added; 3) The Balanced Scorecard; 4) Intellectual Capital. This study chose one measurement model, namely Intellectual Capital (IC) because IC includes a value creation factor that cannot be shown on traditional balance sheets, but is very important for long-term performance (Andreou & Bontis, 2007; Jordão & De Almeida, 2017; Matos & Vairinhos, 2017). The model of measuring knowledge through intellectual capital is very suitable to be applied in this study because universities as a place of research do not publish balance sheets or financial reports as a measure of organizational performance.

The application of Intellectual Capital in sustainable practices is a management effort that is oriented towards gathering empirical evidence to deepen the potential role of intellectual capital in the value creation process (J Dumay & Guthrie, 2012; Dumay et al., 2015). The close relationship between intellectual capital and sustainability can be analysed through its role in realizing organizational performance on an ongoing basis (Coleman, 2007; Fatoki, 2011; Nawaz & Haniffa, 2017; Todericiu & Șerban, 2015). Previous researchers stated that intellectual capital affects organizational performance at present and in the future. The importance of intellectual capital in building sustainability was conveyed by Pedrini (2007) that the practice of organizational responsibility which is oriented towards increasing intangible resources is proven to be able to produce a better organizational performance in the long term. Similar findings were also conveyed by Dutot et al. (2016) that the relationship between Intellectual Capital and sustainability measures is manifested by enhancing the reputation and corporate image and supporting technological innovation. Flexibility, speed, innovation, and integration require human resources that are full of creativity,

while creativity itself can emerge from human resources who have advantages in the field of science (Marr et al., 2003).

In the higher education industry, currently, there has been a paradigm shift in the higher education system from the classic model to the modern model using technology (Lyapina et al., 2019). The implementation of technology to the higher education industry is caused by the need to meet the need for information about the latest scientific developments because classical forms of providing information do not allow achieving the desired results (Stroeve et al., 2019). Higher education leaders should understand these needs and apply information technology in all aspects of their leadership. In this context, information technology is used to carry out two managerial functions, namely, the achievement function and the supervisory function (Indrajit, 2011). The achievement function is related to the leadership strategy for achieving effective and efficient performance targets, while the supervisory function is concerned with the procedures for evaluating organizational performance quickly and precisely. Therefore, a technology application needs to be created to make it easier for lecturers and students to use and distribute global knowledge. McClea and Yen (2005) proposes a general framework for the use of information technology in the higher education system, including study plans, class schedules, student-to-lecturer consultations, technical tools for education programs, web services, and others.

An effective organizational governance system not only deals with work procedures but also deals with the leadership's ability to implement them. Organizational governance has a social orientation since the organization operates in a certain environment, so it is closely related to sustainability (Cai & Mehari, 2015). By understanding the nature and role of knowledge as a central issue in today's global interests, the role of organizational governance in building sustainability does involve not only financial matters and physical assets but also involves intellectual capital issues (Keenan & Aggestam, 2001). Blackman and Kennedy (2009) argued that effective governance and strategic success depend on the appropriate manipulation of knowledge. Organizational governance involves basic managerial functions, including the decision-making process, which is an inherent part of other managerial functions. The problems of private universities in East Java which stem from the Organizing Body's distrust of management are examples of cases of private universities related to governance.

The importance of higher education governance was conveyed by Minister of Research and Higher Education Mohamad Nasir when inaugurating several Public Universities Leaders and Private Universities Coordinators throughout Indonesia on Wednesday, 22 March 2017 (<http://kelembagaan.ristekdikti.go.id>). The inability of management to implement good governance due to the absence of knowledge development in strategic planning can have fatal consequences for the sustainability of the organization (Keenan & Aggestam, 2001). Lin-Hi and Blumberg (2011) provide examples of cases of organizations that are unable to maintain long-term performance due to mismanagement, even though initially, organizations have large assets and a comprehensive understanding of the theory of sustainability.

Organizational sustainability is closely related to the brand image of the organization in the eyes of stakeholders and the wider community (App & Büttgen, 2016). Organizational image is a representation of all stakeholders' perceptions of organizational quality and often triggers word of mouth (WOM) Communication (Stojanovic et al., 2018). Every organization can build a positive image through effective communication or innovative marketing models in accordance with stakeholder wishes (Akonkwa, 2009). Given that the main stakeholders of higher education are students, while students are part of the millennial generation, the most suitable communication model is communication that can meet the needs of students as part of the millennial generation (Assimakopoulos et al., 2017).

The millennial generation is always connected to the internet, is deeply involved in digital technology to gather information or just for entertainment, and tends to decide things online (Kamal et al., 2013; Moore, 2012). They prefer information conveyed through social media, such as YouTube, Instagram, or Facebook, rather than information conveyed conventionally in the form of

printed media. [Http://www.websindo.com](http://www.websindo.com) stated that in 2019, the number of social media users in Indonesia reached 150 million. This number represents 56% of the total population of Indonesia, where 130 million users of whom use mobile as a means of social communication. The increasing power of social media in communicating is a reason for organizations to build a positive image and make themselves look more attractive on social media (Bondarouk et al., 2013).

From the perspective of psychological ownership theory, social media is the most appropriate communication and marketing tool for universities in recruiting prospective students (Khan, 2013). This theory explains that consumer sympathy will continue to grow towards certain organizations if they can inform the organization's services to the public. Higher education leaders need to understand how to use social media effectively in organizations (Lemoine et al., 2016; Merrill, 2011) and make full use of social media presence to convey university policies to students (Hamid et al., 2017; Ors, 2012; Reuben, 2008). Social media is a precious tool in recruiting prospective students, as well as analysing student potential through communication (Choudaha, 2013; Vrontis et al., 2018). Branding created through social media is considered very honest so that it can accelerate the achievement of organizational goals. This is the reason why this study made Social Media Marketing a variable that can moderate the influence of Intellectual Capital and University Managerial Intelligence on organizational sustainability.

Based on this background, it can be concluded that the sustainability of higher education is not only a problem of managers, organizers, or foundations, but also problems of students, alumni, government, and the community around campus. The sustainability of higher education is directly related to the concept of sustainable development, and therefore, becomes an interesting topic to research. As an institution that is responsible for graduates who understand the concept of sustainable development, it is only natural that universities think about the concept of sustainability for their organizations. The research objective is to identify and analyse the sustainability of private universities in East Java in terms of their ability to utilize knowledge-based strategic assets.

2. Materials and methods

2.1. Research approach

This study looked at human behaviour using survey research methods. The approach used was quantitative (positivism), where the data obtained was in the form of numbers (scores or values) analysed using statistical techniques Structural Equation Model (SEM). The results of statistical calculation were used to explain the relationship between variables, among others, Organizational Sustainability (KO), Intellectual Capital (IC), University Managerial Intelligence (UMI), and Social Media Marketing (SMM). The type of data in this study was primary data collected through the questionnaire to obtain an explanation of the object of research obtained based on respondents' perceptions, namely the university leadership at the level of the chancellor in all East Java private universities.

2.2. Population and sample

The population is the entire object of research which consists of a group of people or events that have elements with specific characteristics (Sekaran, 2003). The study population was 64 higher education institutions around the world that have published sustainability reports in the last ten years and the sample was set at 23 institutions.

2.3. Data collection

2.3.1. Type of data

This research is a descriptive study to test a theory or hypothesis of the relationship between variables to strengthen or reject existing theories, as well as to accept or reject

predetermined hypotheses. The parties acting as respondents (data sources) were the top management of private universities in East Java, namely the Chancellor for universities and academies, and the chairperson for Higher Education. The primary data was the score of respondents' perceptions about the question items concerning Intellectual Capital, University Managerial Intelligence, Social Media Marketing, and Organizational Sustainability, all presented on an ordinal scale.

2.3.2. Data collection technique

The primary data in this study were collected through distributing questionnaires which have two characteristics, namely closed and open. A closed questionnaire was used to measure respondents' perceptions about Intellectual Capital, University Managerial Intelligence, Social Media Marketing, and Organizational Sustainability, while an open questionnaire was used to dig more in-depth information about the questions in a closed questionnaire. This study uses the TBL concept as an indicator of organizational sustainability, which implies that an organization must prioritize stakeholder interests including economic performance, social performance, and environmental performance.

The data obtained through a closed questionnaire is the sum of the scores of each respondent for all the variables studied based on a Likert scale of 1 to 5, namely:

1. Score one (1) for the first choice
2. Score two (2) for the second choice
3. Score three (3) for the third choice
4. Score four (4) for the fourth choice
5. Score five (5) for the fifth choice

The number of scores for each variable was then analysed using the statistical technique of Structural Equation Models (SEM) using the Smart-PLS application to conclude whether the research hypothesis is accepted or rejected. Meanwhile, the respondent's explanation obtained through an open questionnaire was used to complement the data described in the discussion of the research results.

2.4. Research variable

2.4.1. Variable type

A research variable is an object that can be physically measured by several instruments to obtain information and draw a conclusion (Sekaran, 2003). The variables in this study were grouped as follows:

1. Exogenous variables or exogenous constructs, also known as source variables, are those that are not predicted by other variables in the model. There were two kinds of exogenous variables in this study, namely:
 - a. Independent exogenous variables are variables that affect other variables. The variable that acted as the independent variable in this study was Intellectual Capital/IC (X1).
 - b. Moderating exogenous variables are variables that will strengthen the relationship between the independent and dependent variables. The moderating variable in this study was Social Media Marketing/SMM (X2)
2. Endogenous variables are variables predicted by one or more other variables in the model. There were two types of endogenous variables in this study, namely:
 - a. Endogenous intervening variables are variables that become causal or have a strong contingent influence on the relationship between the independent variable and the

dependent variable. The intervening variable in this study was University Managerial Intelligence/UMI (Y1).

- b. Endogenous dependent variables are variables that are predicted by one or more other variables. This variable is the result variable which is called the dependent variable or dependent variable. The endogenous dependent variable in this study was Organization Sustainability (Y2).

2.5. Validity test

The validity test aims to determine the validity level of the questionnaire. This validity test is obtained by correlating each indicator score with the total variable indicator score. Then, the correlation results are compared with the critical value at a significant level of 0.05. If the analysis results show a significance value > 0.05, the items in the questionnaire do not show a validity value so that they cannot be continued as a research instrument. The validity test was carried out using the product-moment correlation calculation, with the formula:

r_{xy} = The correlation coefficient for the independent variable and the dependent variable

n = The number of samples

X = Score each item

Y = Total variable score

2.6. Reliability test

Reliability test is intended to determine the consistency of measuring instruments in use, or in other words, the measuring instrument will have consistent results if it is used many times at different times. The reliability test is carried out through the Cronbach Alpha technique, where an instrument can be said to be reliable if it has a reliability coefficient or alpha of 0.700 or more.

Where:

r_{11} = instrument reliability

k = the number of questions

= the number of grain variances

= the total variance

n = the number of samples

3. Results

3.1. Description of respondents' answers regarding the items of the organizational sustainability variable statement

In this study, the variable of organizational sustainability was measured based on indicators of economic sustainability, social sustainability, and environmental sustainability. This study did not assume that one indicator is more important than another so that each indicator is given the same number of statements. Thus, the respondents' responses regarding the questionnaire statement on the organizational sustainability variables can be analysed through:

Table 2. Respondents' responses regarding economic sustainability indicators

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Higher education institutions have many graduates who always increase from year to year	Σ	2	36	21	14	3,54
		%	2,6%	47,4%	27,6%	18,4%	
2.	Higher education institutions have affordable tuition rates (no complaint from students)	Σ	3	16	42	15	3,90
		%	3,9%	21,1%	55,3%	19,8%	
3.	Higher education institutions have other sources of income (other than tuition fees) which are managed professionally	Σ	5	11	40	20	3,99
		%	6,6%	14,5%	52,6%	26,3%	
4.	Higher Education institutions always pay employee salaries on time	Σ	2	38	20	13	3,50
		%	2,6%	50%	26,3%	17,1%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

1. Respondents' responses regarding indicators of economic sustainability
2. Respondents regarding indicators of social sustainability
3. Respondents' responses regarding environmental sustainability indicators

Table 2 presents an explanation of each indicator:

Table 2 shows that the highest average answer to the indicator of economic sustainability is the statement "higher education institutions must have other sources of income apart from professionally managed education costs," namely 3.99 points. This statement was approved by 52.6% of respondents, and 26.3% of respondents stated: "strongly agree." On the other hand, the assessment that "the number of tuition fees must be affordable" also scored high, namely 3.90 points. As many as 55.3% of respondents agreed that tuition fees should be affordable, while 19.8% of respondents strongly agreed. This condition signifies that most private universities in East Java face obstacles in formulating strategies to improve the welfare of the academic community. Private universities face a dilemma of economic sustainability, namely that school fees must be affordable, but the welfare of the academic community must be maintained. To overcome this problem, the idea emerged that private universities should have other sources of income besides professionally managed tuition fees.

Based on the data presented in Table 2, it is also known that as many as 47.4% of respondents feel doubt about the statement "the need to increase the number of graduates to support economic sustainability." This may be because the word "quantity" in the statement does not describe a measure of quality. The phenomenon that occurs in most private universities is the intense competition for new student candidates so that quality is sometimes overlooked. This situation has an impact on the flexibility of leadership in determining SPP rates. Similar results were obtained from the statement "accuracy of payroll time." As many as 50% of respondents doubt whether this can measure economic sustainability. Of course, it is not useful if the amount of salary paid is insufficient.

Respondents' responses regarding Social Sustainability indicators

Respondents' responses regarding statement items that measure social sustainability are presented in Table 3. The researcher concludes that the highest average answer from respondents on indicators of social sustainability is in the statement "the existence of Private Universities must be accepted by the community around campus," which is 4.12 points. As many as 50% of respondents agree with this statement, and 32.9% of respondents strongly agree. The positive response from the community around the campus can be seen from the increase in the community's economy through new business units, for example, boarding houses, food stalls, stationery stores, photocopying, etc. On the other hand, the assessment of the readiness of graduates to face the world of work and curriculum design in supporting social sustainability received almost the same points, namely 4.00 and 4.05. These results indicate that the strategy and creativity of private universities in producing quality graduates is very important for the sustainability of the organization.

Table 3 also revealed that organizational sustainability is influenced by the ability of the institution to create service quality. Although this statement did not get the highest average score, 65.8% of respondents agreed, and 15.8% other strongly agreed that the satisfaction of all academicians is essential for the sustainability of the organization. With the level of service satisfaction received, the lecturers and staff will be able to improve their performance, while students will convey positive things to others. This positive effect can increase public interest in registering at the relevant private university so that its sustainability is more secure.

Table 3. Respondents' responses regarding social sustainability indicators

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Higher education institutions have a contemporary curriculum according to the needs of graduate users	Σ	5	12	37	22	4,00
		%	6,8%	15,8%	48,7%	29%	
2.	Higher education institutions can create service satisfaction to all academicians	Σ	6	8	50	12	3,89
		%	7,9%	10,5%	65,8%	15,8%	
3.	The community around the campus very well accepts the existence of Higher Education institutions	Σ	0	13	38	25	4,12
		%	0%	17,1%	50%	32,9%	
4.	Higher education institutions produce graduates who are ready to work	Σ	4	6	48	18	4,05
		%	5,3%	7,9%	63,1%	23,7%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

Table 4. Respondents' responses regarding environmental sustainability indicators

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Higher education institution always uses environmentally friendly products	Σ	0	17	41	18	4,01
		%	0%	22,4%	53,9%	23,7%	
2.	The college runs academic administration services online	Σ	0	14	46	16	4,03
		%	0%	18,4%	60,5%	21,1%	
3.	Higher education ray Institutions carry out organizational activities in accordance with the applicable statutory system	Σ	0	25	29	22	3,96
		%	0%	32,9%	38,2%	28,9%	
4.	Higher education uses electricity, water, and other energy needs according to their needs (saving)	Σ	0	6	48	16	3,97
		%	0%	7,9%	63,2%	21,1%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

Respondents' responses regarding Environmental Sustainability indicators

Table 4 revealed that the highest average of respondents' answers regarding environmental sustainability indicators is found in a statement indicating that private universities must be able to carry out their operational activities online. As many as 60.5% of respondents agreed with this statement, and even 21.1% of them strongly agreed. This percentage has an impact on the average score of 4.03 points, exceeding other statements such as the use of environmentally friendly and energy-efficient products. This condition at the same time confirms the general opinion that the sustainability of an organization is determined, among other things, by the ability of the organization to understand the character of stakeholders (in this case students) as part of the millennial generation whose activities are highly dependent on the internet.

This study provides an overall picture of the answer that the campus commitment to carry out organizational activities in accordance with the applicable statutory system provides the smallest contribution in measuring environmental sustainability. The number of respondents who doubted, agreed, and strongly agreed was balanced, namely in the range of 30% to 38% with an average score of 3.96 points. The average score which is close to the value of 4 (agree) means that the statement is still relevant in measuring environmental sustainability.

3.2. Description of respondents' answers regarding the items of the intellectual capital variable statement

In this study, the Intellectual Capital variable was measured based on indicators of human capital, structural capital, and relational capital. This study assumes that the weight of each indicator is the same, so that the number of statements used to analyse the role of each indicator in measuring the variable is also the same. Respondents' responses regarding the questionnaire statement regarding the Intellectual Capital variable can be analysed through:

1. Respondents' responses regarding human capital indicators
2. Respondents' responses regarding the indicator of structural capital
3. Respondents' responses regarding the indicator of relational capital

The explanation of each indicator is presented in the table below:

Respondents' responses regarding Human Capital indicators

Table 5 explains that the respondent's highest average answer to the human capital indicator is obtained by the statement about "the importance of employee professionalism in carrying out their duties". Lecturers obtained an average score of 4.08 points, while education personnel obtained 4.01 points. As much as 67.1% of respondents approved the statement of professionalism of lecturers, while 60.5% of respondents approved the professionalism of education personnel. This statement implies that Human Resources will be of "capital" value for the organization and will provide a considerable contribution to the intellectual capital variable if they can carry out their duties properly. A lecturer must be able to carry out the task of pursuing, research, and dedication in accordance with the laws and regulations, while educational staff must be able to carry out their administrative duties with the main tasks set by each university.

Table 5 also explains that the ability of lecturers to teach using the newest method in measuring intellectual capital gets the lowest average score of 3.79 points. If converted to the assessment concept using the Likert scale, then the point is close to a value of 4 so that it can still be said to be "good enough". This means that lecturers who can teach with current methods according to student needs will contribute quite well to determining intellectual capital. As many as 34.2% of respondents were in doubt with this statement, but 48.7% of the respondents agreed, and 15.8% strongly agreed.

Table 5. Respondents' responses regarding human capital indicators

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Higher education institutions have lecturers with doctoral degrees with expertise in accordance with the field of science (study program) of more than 40% of the total lecturers	Σ	3	13	49	11	3,89
		%	3,9%	17,1%	64,5%	14,5%	
2.	Higher education institutions have professional educator certified lecturers of more than 40% of the total lecturers	Σ	1	8	51	16	4,08
		%	1,3%	10,5%	67,1%	21,1%	
3.	Higher education institutions have employees (lecturers and education staff) who can work in teams	Σ	1	13	46	16	4,01
		%	1,3%	17,1%	60,5%	21,1%	
4.	Higher education institutions have lecturers who can teach with contemporary methods according to student expectations	Σ	1	26	37	12	3,79
		%	1,3%	34,2%	48,7%	15,8%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

Table 6. Respondents' responses regarding structural capital indicators

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Higher education institutions have written guidelines regarding the system for recruiting, placing, and firing employees	Σ	1	13	42	20	4,07
		%	1,3%	17,1%	55,3%	26,3%	
2.	Higher education institutions have written guidelines regarding the monitoring and evaluation system for lecturer performance in the Tri Dharma	Σ	0	23	45	8	3,80
		%	0%	30,3%	59,2%	10,5%	
3.	Higher education institutions have written guidelines on monitoring and evaluating the performance of academic administration for education personnel	Σ	0	21	48	7	3,82
		%	0%	27,6%	63,2%	9,2%	
4.	Higher education institutions have written guidelines on how to provide academic administration services	Σ	0	20	50	6	3,82
		%	0%	26,3%	65,8%	7,9%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

Respondents' responses regarding the Structural Capital indicator

As described in [Table 6](#), this study found similar values to other several statements regarding the structural capital indicator as a measure of the intellectual capital variable. These statements are 1) The need for written guidelines regarding the monitoring and evaluation system for lecturers' performance with a score of 3.8 points, 2) The need for written guidelines on monitoring and evaluating the performance of academic administration for education staff with a score of 3.82 points, and 3) The need for written guidelines on procedures for academic administration services of 3.82 points. Each statement was approved by around 60% of respondents so that in general, where all statements get a good assessment point in measuring the structural capital indicators.

[Table 6](#) also reveals that the statement "the need for higher education institutions to have written guidelines regarding the recruitment, placement and dismissal of employees" received the highest score (an average of 4.07 points) of the structural capital indicator as a measure of intellectual intelligence variable. As many as 17.1% of respondents did doubt this statement, but 55.3% agreed and 26.3% strongly agreed. For Private Universities, this guideline is essential to provide direction in realizing employee career sustainability.

Respondents' responses regarding the Relational Capital indicator

Respondents' responses regarding the statement item Relational Capital are presented in [Table 7](#) and show that the highest average respondent's answer is in the statement about the need for Private Universities to have a good relationship with the Government and Higher Education Service Institutions. A total of 71.1% of respondents agreed with this statement, and 14.5% strongly agreed. The average score was 3.99 points, so it can be concluded that the statement got a good score. This respondent's answer can be interpreted that the ability of private universities to establish and maintain good relations with government agencies is something that must be considered to maintain the sustainability of the organization.

[Table 7](#) also explains that the excellent relationship between private universities and professional organizations ranks last in the measurement of relational capital as an indicator of intellectual capital. This statement was doubted by 22.4% of respondents, obtained as much as 65.8% agreement from the respondents, and only 5.3% strongly agree, thus obtaining an average score of 3.7 points. If converted to the assessment concept using a Likert scale, then the points are close to the value 4 so that it can still be said to be "good enough." This result means that not all private universities have good relations with professional organizations or even do not actively engage with professional organizations.

3.3. Description of respondents' answers regarding the items of the university managerial intelligence variable statement

In this study, the University Managerial Intelligence variable was measured based on indicators of Personal Knowledge Management, University Governance, and Information Technology Capabilities. This study assumes that the weight of each indicator is the same so that the number of statements used to analyse each indicator is the same. Respondents' responses regarding the statements in the questionnaire on the University Managerial Intelligence variables can be analysed through:

- (1) Responses regarding Personal Knowledge Management indicators
- (2) Responses regarding indicators of University Governance Management
- (3) Responses regarding indicators of Information Technology Capabilities

The explanation of each indicator is presented in the [table 8,9, and 10](#).

Table 7. Respondents' responses regarding relational capital indicators

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Higher education institutions have good relations with alumni	Σ	7	10	50	9	3,80
		%	9,2%	13,2%	65,8%	11,9%	
2.	Higher institutions have good relations with the surrounding community	Σ	7	11	51	7	3,76
		%	9,2%	14,5%	67,1%	9,2%	
3.	Higher education institutions have good relations with government agencies, especially the Higher Education Service Institutions	Σ	1	10	54	11	3,99
		%	1,3%	13,2%	71,1%	14,5%	
4.	Higher education institutions have good cooperative relationships with professional organizations	Σ	5	17	50	4	3,70
		%	6,6%	22,4%	65,8%	5,3%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

Table 8. Respondents' responses regarding personal knowledge management

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Employment database is used as a basis for exploring the complete competence of employees	Σ	11	22	28	15	3,62
		%	14,5%	28,9%	36,8%	19,7%	
2.	All employees have the same opportunity to work according to their competencies/ fields of knowledge	Σ	3	16	46	11	3,86
		%	3,9%	21,1%	60,5%	14,5%	
3.	High performing employees receive positive appreciation to motivate the employees concerned to improve their performance	Σ	0	14	44	18	4,05
		%	0%	18,4%	57,9%	23,7%	
4.	Employees who make mistakes are given a warning/ sanction politely so as not to repeat the same mistakes	Σ	5	6	48	17	4,01
		%	6,6%	7,9%	63,2%	22,4%	

Source: Primary data processed in 2020
 Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

Respondents' responses regarding Personal Knowledge Management indicators

Respondents' responses regarding the Personal Knowledge Management statement are presented in Table 8, where the statement regarding the need for the leadership to appreciate the results of employee performance personally is the best thing that the leadership can do to maximize the role of intellectual capital to advance the organization. This statement was given the agreed value of 57.9% of respondents and strongly agreed by 23.7%, although 18.4% expressed doubt. The average score is 4.05 points, so it can be concluded that the value of the statement is good. The respondent's answer could be interpreted as that this activity should be carried out by leaders of private universities in exploring potential, motivating, and evaluating employee performance in realizing organizational sustainability.

Table 8 also explains that the use of employee databases in the managerial process of the leadership gets an average score of 3.62 points and is the lowest rank in personal knowledge management to maximize the role of intellectual capital in determining organizational sustainability. As many as 28.9% of respondents were in doubt with the statement, 36.8% agreed, and 19.7% strongly agreed. Even though it gets the lowest average, it can still be categorized as "good enough" after being converted to the Likert scale rating concept. These results mean that not all private universities have an adequate staffing database so that many respondents doubt its usefulness in leadership activities.

Respondents' responses regarding the indicators of University Governance Management

Respondents' responses regarding the points of the University Governance Management indicator statement are presented in Table 9, where the most significant support for good or bad organizational governance is the objectivity of the leader in solving organizational problems. This statement received an agreeable response from 72.4% of respondents and strongly agreed from 23.7% of respondents. Not a single respondent expressed disagreement or even strongly disagreed, while 3.9% expressed doubt so that the average score obtained was 4.20 points. The relatively high average score means that the employees feel comfortable because they are treated fairly by the leadership is the main thing that must be considered by the leadership. With justice that is felt, lecturers and education personnel will be able to maximize their potential at work to provide the highest role in university managerial intelligence.

Table 9 also explains that all statements in the university governance indicator obtained a mean score of close to 4. This provides a profound meaning about the importance of sound organizational governance to manage intellectual capital as a variable that affects the sustainability of the organization. Leaders must ensure that the management of private universities is in accordance with applicable laws and other regulations, provide sufficient space for alignment of the interests of shareholders and stakeholders, and have an adequate Internal Quality Assurance System. All statements are significant for the sustainability of the organization.

Respondents' responses regarding the indicator of Information Technology Capabilities

Based on Table 10, it is known that intelligence or knowledge mastery of information technology owned by the leadership will have a substantial meaning for the measurement of intellectual capital if it is applied directly to students in carrying out the Student Creativity Program (PKM). This statement received an agreeable response from 45% of respondents and strongly agreed with 17% of respondents. Although 14% of respondents expressed doubt, not one respondent disagreed or even strongly disagreed. Overall, this statement was given a "good" score by the respondents with a mean score of 4.04 points. The meaning that can be explained from this value is the awareness of the leaders of private universities to maximize IT capabilities to meet student needs. There is full awareness of each leader of the Private Higher Education that students

Table 9. Respondents' responses regarding university governance management

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Higher education institutions' governance is determined based on laws and other applicable regulations	Σ	0	14	44	15	3,94
		%	0%	18,4%	57,9%	19,7%	
2.	Higher education institutions' governance provides sufficient space for the alignment of the interests of shareholders and stakeholders	Σ	0	17	45	14	3,96
		%	0%	22,4%	59,2%	18,4%	
3.	There is an Internal Quality Assurance System (SPMI) which is established based on the applicable regulations	Σ	0	19	36	21	4,03
		%	0%	25%	47,4%	27,6%	
4.	To get a conducive organizational climate, all organizational problems are resolved objectively	Σ	0	3	55	18	4,20
		%	0%	3,9%	72,4%	23,7%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

Table 10. Respondents' responses regarding information technology capabilities

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Maximized its use of information technology as a tool to evaluate employee performance	Σ	0	18	40	18	4,00
		%	0%	23,7%	52,6%	23,7%	
2.	The use of information technology is maximized to facilitate the implementation of the Student Creativity Program	Σ	0	14	45	17	4,04
		%	0%	18,4%	59,2%	22,4%	
3.	The use of information technology is maximized in the process of admitting new students	Σ	0	26	31	19	3,91
		%	0%	34,2%	40,8%	25%	
4.	The use of information technology is maximized as a tool to ensure policy validity	Σ	0	5	50	15	3,97
		%	0%	6,6%	65,8%	19,7%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

are the main determinants of the sustainability of the organization so that all efforts must be made to meet the needs of students.

Table 10 also explains that all statements in the Information Technology Capabilities indicator get a mean score of close to 4 (if rounded it is 4). This gives the meaning of the importance of mastering information technology from the leaders of private universities in order to maximize the role of intellectual capital in realizing organizational sustainability. Leaders can use IT to evaluate employee performance with an average score of 4 points, the admission process for new students with an average score of 3.91 points, and as a tool to ensure the validity of policies with an average score of 3.97 points. This is in line with the phenomenon of the period of organizational life, which is currently in the digital industry and requires more technology.

3.4. Description of respondents' answers regarding social media marketing variables

In this study, the Social Media Marketing variable was measured based on the indicators of Content Creation, Content Sharing, Connecting, and Community Building. This study assumes that the role of each indicator in measuring Social Media Marketing variables is the same so that the number of statements used to analyse each indicator is the same. Respondents' responses regarding Social Media Marketing variables can be analysed through:

1. Respondents' responses regarding the Content Creation indicator
2. Respondents' responses regarding the Content Sharing indicator
3. Respondents' responses regarding the Connecting indicator
4. Respondents' responses regarding Community Building indicators

The explanation of each indicator is presented in the table below:

Respondents' responses regarding the Content Creation indicator

Respondents' responses regarding Content Creation items are presented in table 5.11. From this table, it is known that the two statements get the same average score, namely the ability of private universities to adjust the appearance of content to the preferences of students as the millennial generation and determine the depth of content only on essential things that are worthy of being known by the public. Both statements received an assessment of "agree" by more than 50% of respondents and "strongly agree" about 25% of respondents so that they obtained a "good" rating with an average score of 4 points. These points mean that information that is to be conveyed through social media will hit the hearts of students more if the content is up to date. However, leaders of private universities must be careful in choosing the type of information to be uploaded. It must be strictly selected that the information is information that is worthy of being known by the wider community. Publication of information in the digital era as it is today will be very detrimental to organizational performance if leaders are unable to select the feasibility of information properly.

Table 11 also explains that the college's ability to ensure that the content provided represents the personality of information gets the lowest average score, which is 3.59 points. As many as 43.4% of respondents doubted the statement, 30.1% agreed, and 19.7% stated that they strongly agreed. These results can be interpreted that the leaders of private universities believe more in the freedom of the community to judge information according to their respective perceptions, so there is no need to think whether this is in accordance with the college's intent or not.

Respondents' responses regarding the Content Sharing indicator

Table 12 presents data on the importance of honesty in uploading information on social media. If there is information uploaded on more than one social media, then the information must have

Table 11. Respondents' responses regarding content creation indicators

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Higher Education institutions ensure that the content provided represents the personality of an information	Σ	2	33	23	15	3,59
		%	2,6%	43,4%	30,1%	19,7%	
2.	Higher Education institutions adapt the appearance of content to the penchant for students as the millennial generation	Σ	1	16	42	17	4,00
		%	1,3%	21,1%	55,3%	22,4%	
3.	Higher education institutions determine the depth of content only on essential matters that are worthy of being known by the public	Σ	4	11	41	20	4,00
		%	5,3%	14,5%	53,9%	26,3%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

Table 12. Respondents' responses regarding content sharing indicators

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Higher Education considers the level of public trust in content uploaded on several social media	Σ	2	33	21`	17	3,62
		%	2,6%	43,4%	27,6%	22,4%	
2.	Higher Education guarantees the same meaning of information uploaded on various social media	Σ	3	12	40	21	4,04
		%	3,9%	15,8%	52,6%	27,6%	
3.	Higher Education determines the time limit for each news broadcast so as not to cause saturation for users	Σ	7	12	42	15	3,86
		%	9,2%	15,8%	55,3%	19,7%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

the same meaning. Information that does not have multiple meanings is preferred because it will make it easier for users to make decisions. This statement received a response “agree” from 52.6% of respondents and “strongly agree” from 27.6% of respondents with an average score of 4.04 points.

On the other hand, Table 12 also explains the questionnaire statement, which states that universities need to consider the level of public trust in content uploaded on several social media which has the lowest score. As many as 3.9% of respondents stated that they strongly disagreed with the statement, 2.6% disagreed, 43.4% were in doubt, 27.6% agreed, and 22.4% strongly agreed. Even though there is a complete distribution of opinions from respondents, starting from the opinion “strongly disagree” to “strongly agree”, in general, this statement still gets a pretty good response from respondents with an average score of 3.62 points. To get the response as expected, higher education institutions need to consider the level of public trust in the information uploaded.

Respondents' responses regarding the connecting indicator

Respondents' responses about the statement items on the connecting indicator are presented in Table 13. The table presents the provider owns data on the importance of the network as something that should be considered by universities when using social media. This statement received an excellent response from respondents with an average score of 4.12 points. The number of respondents who agreed with the statement was more than 53.9%, while those who answered strongly agreed with 28.9%. This result means that universities should not be careless in determining the types of social media. Higher education institutions must choose social media that has a reasonably vast network because the extent of the network is identical to the large number of people who understand university information.

Another thing that universities need to consider in uploading information on social media is aligning the interests of institutions with the interests of the public. For example, when the public wants the institution's concern for a group of students who are experiencing difficulties with tuition fees, universities should upload tuition fee information that reflects this concern. This statement received a response “agree” as much as 53.9% of respondents and “strongly agree” as much as 22.4% with an average score of 3.99 points. A good point of judgment, though the lowest among other statements.

Respondents' responses regarding Community Building indicators

Table 14 presents data on the importance of social media to build good communication with all academicians. This statement gets an average value of 4.04 points, the highest among other statements in measuring community building as an indicator of social media marketing. As many as 56.6% of respondents gave a statement “agree” on the statement and 23.7% stated “strongly agree”. Although 19.7% of the respondents expressed “doubt” on the statement, not one respondent stated that they “did not agree” or even “strongly disagreed”. Table 14 also presents data that more than 50% of respondents stated “agree” that social media is a vehicle for exchanging information, ideas, suggestions, and ideas in virtual groups (average 3.99 points) and can maximize the impact of promotions (mean 3, 95 points).

3.5. SEM-PLS analysis

Evaluation of the SEM-PLS model is carried out by evaluating the outer model and inner model, where the outer model is a measurement model to assess the validity and reliability of the model. In contrast, the inner model is a structural model to predict the causality relationship between latent variables.

Table 13. Respondents' responses regarding connecting indicators

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	To get user responses as expected, Higher Education institutions consider the type of social media to be selected	Σ	0	13	41	22	4,12
		%	0%	17,1%	53,9%	28,9%	
2.	Higher education institutions consider the extent of the network in uploading the information they want to convey	Σ	0	11	39	22	4,04
		%	0%	14,5%	51,3%	28,9%	
3.	Higher education institutions use social media to link organizational policies with public interests	Σ	0	18	41	17	3,99
		%	0%	23,7%	53,9%	22,4%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

Table 14. Respondents' responses regarding community building indicators

NO	STATEMENT	STS	TS	R	S	SS	Average
1.	Higher education uses social media to build good communication from the academic community	Σ	0	15	43	18	4,04
		%	0%	19,7%	56,6%	23,7%	
2.	Colleges make use of social media to maximize the impact of promotions	Σ	0	25	30	21	3,95
		%	0%	32,9%	39,5%	27,6%	
3.	Higher education uses social media to exchange information, ideas, suggestions, and ideas in virtual groups	Σ	0	6	47	17	3,99
		%	0%	7,9%	61,8%	22,4%	

Source: Primary data processed in 2020

Information: SS = Strongly agree, S = Agree, R = Doubt, TS = Disagree, STS = Strongly disagree

Figure 1. Initial processing path diagram.

Source: Data Processing Results (2020)



3.6. Measurement model (outer model)

The measurement model in this study is used to test variables validity and instrument reliability. Construct validity shows how well the results (score) are obtained to define a construct whose test consists of convergent validity and discriminant validity. The testing model in question consists of four variables, namely Intellectual Capital/IC (X1/Independent), University Managerial Intelligence/UMI (Y1/Mediation), Social Media Marketing/SMM (X2/Moderation), and Organizational Sustainability/KO (Y2/Dependent). Variable). The relationship between the four variables is presented in Figure 1 as follows:

3.7. Convergent validity test and discriminant validity

Each indicator in the model must meet convergent validity, which has a loading factor value > 0.5. If the value of each indicator has a loading factor value > 0.5, then the evaluation step can be continued, and if there is an indicator whose value is < 0.5, then it is removed from the model then re-analysed until all indicators have a loading factor value of > 0.5. Discriminant validity was analysed by looking at the AVE value with the criteria if the AVE value were > 0.5 then it could be continued for further analysis as seen on Table 15.

The initial test results obtained that the AVE value did not match the criteria, namely the IC variable AVE which had an AVE value of 0.417 and the SMM variable which had an AVE value of 0.476, where these two variables had an AVE value < 0.5.

Based on these results, the indicators IC2, IC3, IC11, IC12 were issued, while the QMS variable did not need to issue other indicators because after the invalid indicators were issued, AVE results were found that met the criteria. The relevant results are obtained values that meet the criteria in convergent validity and produce AVE values > 0.5, which can be seen in Table 16.

Based on Table 16, it is known that the AVE value is more significant than 0.5. This means that the convergent validity test is fulfilled, and it can be concluded that each of these latent variables can represent the indicators in the block. After the convergent validity test is fulfilled, it is continued to carry out the discriminant validity test by looking at the correlation value between latent variables with the provisions of the correlation between the indicator and the latent variable > the correlation between the indicator and other latent variables (outside the block). Based on the evaluation process, the final path analysis model is obtained, as shown in Figure 2.

Table 15. Convergent validity test results by seeing the initial AVE value

Variable	Average Variance Extracted (AVE)
IC	0,417
KO	0,563
SMM	0,476
UMI	0,545
MOD IC-SMM	1,000
MOD UMI-SMM	1,000

Source: Smart-PLS Test Results

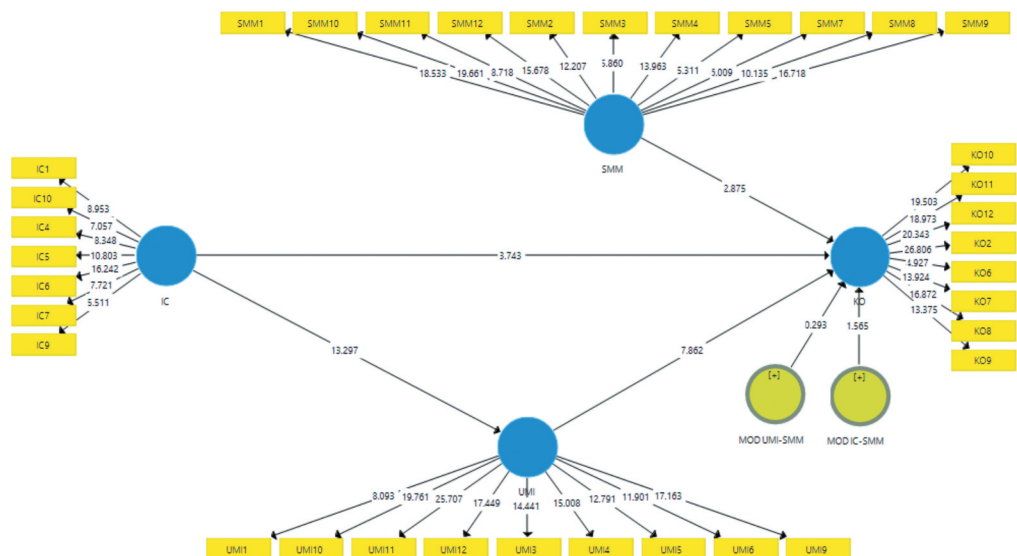
Table 16. Convergent validity test results by seeing the final AVE value

Variable	Average Variance Extracted (AVE)
IC	0,512
KO	0,581
SMM	0,502
UMI	0,527
MOD IC-SMM	1,000
MOD UMI-SMM	1,000

Source: Smart-PLS Test Results

Figure 2. Result path diagram.

Source: Data Processing Results (2020)



3.8. Reliability test

In addition to conducting validity tests, SEM PLS also performs reliability tests which aim to measure the internal consistency of measuring instruments. The reliability test can use Composite Reliability. It is said to be reliable if the Composite Reliability value is > 0.7. The results of the reliability test can be seen in Table 17. Based on Table 17, it shows that each

Table 17. Reliability testing results

Variable	Composite Reliability
IC	0,880
KO	0,916
SMM	0,916
UMI	0,916
MOD IC-SMM	1,000
MOD UMI-SMM	1,000

Source: Smart-PLS Test Results

value of the composite reliability of each variable in this research study is > 0.7 . Thus, it can be concluded that all the variables in this research study have reliable reliability good.

3.9. Structural model/hypothesis proof (inner model)

The structural model in PLS-SEM in this research study was evaluated using R^2 for the dependent construct, the path coefficient value, or the t-value path for the significance test between constructs in the structural model. The structural model testing in this research study can be seen in [Table 18](#) as follows:

The proof of hypothesis H up to H6 can be presented as follows:

- a. Proof of hypothesis (H1): Intellectual Capital (X1) influences organizational sustainability (Y2).

The results of the analysis of the coefficient of the influence of intellectual capital (X1) on Organizational Sustainability (Y2) obtained a coefficient value of 0.157, a statistical value of 3.743 which is more significant than 1.96 and a p-value of 0.000 which is smaller than alpha 0.05, hence there is sufficient empirical evidence to accept the first hypothesis that "Intellectual Capital (X1) affects Organizational Sustainability (Y2)". The coefficient value of 0.157 which is positive indicates that the effects of both are unidirectional and it can be said that the higher the Intellectual Capital (X1), the higher the Organizational Sustainability (Y2). The first hypothesis which states that Intellectual Capital has a positive and significant effect on Organizational Sustainability in East Java Private Universities is accepted.

- a. Proof of hypothesis (H2): Intellectual Capital (X1) affects University Managerial Intelligence (Y1).

The results of the analysis of the coefficient of the influence of the Intellectual Capital variable (X1) on University Managerial Intelligence (Y1) obtained a coefficient value of 0.648, a t-statistics value of 13.297 which is more significant than 1.96 and a p-value of 0.000 which is smaller than alpha 0, 05, then there is sufficient empirical evidence to accept the second hypothesis that "Intellectual Capital (X1) affects University Managerial Intelligence (Y1)", the coefficient value of 0.648 which is positive indicates that the effects of both are unidirectional. It can be said that the higher Intellectual Capital (X1) will result in a higher University Managerial Intelligence (Y1). Thus, the second hypothesis which states that intellectual capital has a positive and significant effect on University Managerial Intelligence in East Java Private Universities is accepted.

- a. Proof of hypothesis (H3): University Managerial Intelligence (Y1) affects Organizational Sustainability (Y2).

The results of the coefficient analysis of the influence of the University Managerial Intelligence (Y1) variable on Organizational Sustainability (Y2) obtained a coefficient value of 0.642, a t-statistics value of 7.862 which is more significant than 1.96 and a p-value of 0.000 which is smaller than alpha 0, 05 then there is sufficient empirical

Table 18. Significance value of structural model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Information
IC → KO	0,157	0,155	0,042	3,743	0,000	Significant
IC → UMI	0,648	0,666	0,049	13,297	0,000	Significant
SMM → KO	0,214	0,214	0,075	2,875	0,005	Significant
UMI → KO	0,642	0,642	0,082	7,862	0,000	Significant
IC → UMI → KO	0,416	0,428	0,065	6,440	0,000	Significant
MOD IC-SMM → KO	-0,063	-0,066	0,040	1,565	0,121	Not Significant
MOD UMI-SMM → KO	0,012	0,012	0,042	0,293	0,770	Not Significant

Source: Smart-PLS Test Results

evidence to accept the third hypothesis that “University Managerial Intelligence (Y1) affects Organizational Sustainability (Y2)”. The coefficient value of 0.642 is positive indicating that the influence of both is unidirectional and it can be said that the higher the University Managerial Intelligence (Y1), the higher the Organizational Sustainability (Y2). Thus, the third hypothesis, which states that University Managerial Intelligence has a positive and significant effect on Organizational Sustainability in East Java Private Universities is accepted.

- a. Proof of hypothesis (H4): Intellectual Capital (X1) affects Organizational Sustainability (Y2) through University Managerial Intelligence (Y1).

Testing of the mediating variables was carried out by looking at the significance of the indirect effect between the variables of Intellectual Capital (X1), University Managerial Intelligence (Y1), and Organizational Sustainability (Y2). The test results show the value of the indirect effect has a coefficient value of 0.416, a t-statistic value of 6.440 which is more significant than 1.96, and a p-value of 0.000 which is smaller than alpha 0.05, so that there is sufficient empirical evidence to accept The fourth hypothesis that “University Managerial Intelligence (Y1) can mediate the influence of Intellectual Capital (X1) on Organizational Sustainability (Y2)” Thus, the fourth hypothesis which states that University Managerial Intelligence mediates the influence of Intellectual Capital on Organizational Sustainability in East Java Private Universities is accepted.

- a. Proof of hypothesis (H5): Social Media Marketing (X2) moderates the influence of Intellectual Capital (X1) on Organizational Sustainability (Y2).

The results of the analysis of the moderation coefficient of Social Media Marketing (X2) on the influence of Intellectual Capital (X1) on Organizational Sustainability (Y2) obtained a coefficient value of -0.063 , the t-statistics value of 1.565 which is smaller than 1.96 and a p-value of 0.121. that is greater than alpha 0.05. This empirical result means that Social Media Marketing (X2) is unable to moderate the influence of Intellectual Capital (X1) on Organizational Sustainability (Y2). Based on these results, the hypothesis which states that social media marketing moderates the influence of intellectual capital on organizational sustainability in private universities in East Java is not accepted.

- a. Proof of hypothesis (H6): Social Media Marketing (X2) moderates the relationship between University Managerial Intelligence (Y1) and Organizational Sustainability (Y2).

The results of the analysis of the moderation coefficient of Social Media Marketing (X2) on the influence of University Managerial Intelligence (Y1) on Organizational Sustainability (Y2) obtained a coefficient value of 0.012, a t-statistics value of 0.293 which is smaller than 1.96 and a p-value of 0.770. that is greater than alpha 0.05. This empirical result means that Social Media Marketing (X2) is unable to moderate the influence of University Managerial Intelligence (Y1) on Organizational Sustainability (Y2). Based on these results, the hypothesis which states that Social Media Marketing moderates the influence of University Managerial Intelligence on Organizational Sustainability at Private Universities in East Java are not accepted.

After testing the hypothesis, the next step is to evaluate the value of R^2 , where the purpose of this evaluation is to determine the strength of the effect of exogenous latent variables on endogenous latent variables in the model. R^2 Evaluation Test can be seen in the table as follows:

Table 19. R^2 evaluation test

Variable	R Square
UMI	0,433
KO	0,947

Source: Smart-PLS Test Results

Based on Table 19 shows that the R2 value for the University Managerial Intelligence (Y1) variable is 0.433. This value indicates that the magnitude of the influence of Intellectual Capital (X1) and its indicators on the University Managerial Intelligence (Y1) variable is 43%. Meanwhile, the R2 value for the Organizational Sustainability (Y2) variable is 0.947, indicating that the amount of influence of Intellectual Capital (X1) with its indicators through University Managerial Intelligence (Y1) with the indicators on the Organizational Sustainability variable (Y2) is 94%. These results explain that Intellectual Capital (X1) has an impact on University Managerial Intelligence (Y1) which in turn has an impact on Organizational Sustainability (Y2).

In addition to seeing the R-Square value, the model is also evaluated by looking at the predictive relevance Q-Square value. The value of the Q-Square can be calculated with the following calculations:

$$\begin{aligned} Q^2 &= 1 - (1 - R_1^2) (1 - R_2^2) \\ &= 1 - (1 - 0,433) (1 - 0,947) \\ &= 0,9699 \end{aligned}$$

Obtained a Q2 value of 0.9699 close to the value of 1 so that it can be stated that the structural model is fit with the data or has predictions that are quite relevant to empirical evidence.

4. Discussion

Based on the characteristics of the respondents, it is known that all respondents are those who understand the concept of building sustainability in higher education. Respondents are leaders of private universities in East Java who already have a higher education accreditation rating of at least “sufficient”, most of them have a doctoral background, a minimum academic position as lecturer. They have served in the institution they lead for at least ten years. With these characteristics, this study believes that the respondents’ answers to the questionnaire given are a real picture of the sustainability of higher education organizations. Based on statistical analysis, it can be explained that the causal relationship of the variables that are predicted to affect the sustainability of the organization (Studies at private universities in East Java) is as follows:

4.1. The influence of intellectual capital on organizational sustainability

This study proves that intellectual capital (IC) has a significant effect on the Organizational Sustainability (KO) of private universities in East Java. The positive coefficient value of the structural model indicates that the relationship between the two is unidirectional, meaning that the higher the IC, the higher the KO. These results can be interpreted that higher education sustainability can be realized if private higher education institutions have strategic knowledge-based resources (intellectual capital), consisting of human capital, structural capital, and relational capital. The results of this study are also in line with empirical studies which prove that all components of Intellectual Capital have a positive effect on current and future organizational performance.

In the management of private universities in East Java, this research proves that the number of lecturers with doctoral qualifications, certified professional educators, can work in teams and can teach with current methods in accordance with student expectations constitutes human capital which plays an essential role in forming IC. Likewise, structural capital, this indicator also determines the amount of IC value, for example, 1) written guidelines regarding the system for recruitment, placement, and dismissal of employees, 2) written guidelines for monitoring systems and evaluation of lecturer performance, 3) written guidelines for monitoring and evaluating employee performance, and 4) written guidelines on procedures for academic administration services. Meanwhile, good relations with alumni, local communities, the government (Higher

Education Service Institutions) and professional organizations also contribute to the amount of IC points in the relational capital indicator.

Armed with adequate IC, private universities can improve the quality of graduates, manage finances well, formulate up-to-date curricula, and provide adequate academic administration services. With conditions that are getting better, the public's interest to study at these private universities is getting bigger so that it has an impact on the sustainability of the organization.

4.2. The influence of intellectual capital on university managerial intelligence

This study proves that Intellectual Capital (IC) has a significant effect on the University Managerial Intelligence (UMI) of East Java Private Universities. The positive coefficient value of the structural model indicates that the relationship between the two is unidirectional, meaning that the higher the IC, the higher the UMI. The results of this study can be interpreted that the success of the leadership in managing IC as sustainable competitiveness is influenced by the quality of human capital, structural capital, and relational capital. With adequate IC quality, private universities can manage human resources competently, carry out organizational activities in accordance with applicable laws and regulations, align the interests of shareholders and stakeholders, and formulate organizational policies appropriately.

The results of this study are in line with empirical studies which state that UMI is related to the ability of leaders to capture collective excellence and distribute it to any part of the organization to achieve the most remarkable results. UMI also describes the leadership's ability to combine various experiences, intuition, ideas, skills, motivation, and interpretations of individuals involved in organizations using information technology. By understanding the nature and role of knowledge as a strategic asset, UMI's role does involve not only financial matters and physical assets, but also involves intellectual capital issues.

4.3. The influence of university managerial intelligence on organizational sustainability

This study proves that the University Managerial Intelligence (UMI) has a significant effect on the Organizational Sustainability (KO) of private universities in East Java. The positive coefficient value of the structural model indicates that the relationship between the two is unidirectional, meaning that the higher the UMI, the higher the KO. The results of this study can be interpreted that organizational sustainability is closely related to the application of Resource Based Theory which emphasizes the role of strategic resources in gaining a level of competitive advantage. The results of the study are in line with empirical evidence which states that organizational sustainability is not only determined by the strategic resources it has, but also because of the practical and innovative resource management depicted in UMI.

Through UMI, higher education leaders have a basis for exploring the competence of lecturers and academic staff based on valid staffing databases. UMI provides an Internal Quality Assurance System (SPMI) based on information technology and provides equal opportunities for all academicians to work according to their competencies. UMI's activities have an impact on the creation of a conducive organizational climate to solve organizational problems objectively. This is what makes an employee able to improve organizational performance in realizing organizational sustainability.

4.4. The influence of intellectual capital on organizational sustainability through university managerial intelligence

This study proves that University Managerial Intelligence (UMI) can mediate the influence of Intellectual Capital (IC) on the Organizational Sustainability (KO) of Private Universities in East Java. The results of the study are in line with empirical evidence which states that organizational leaders who can explore and utilize knowledge in the formulation of strategic policies will make the organization grow and develop continuously. On a practical level, private universities in East

Java need leaders who can manage knowledge as a source of competitiveness and distribute it to all members of the organization. Private Universities in East Java need leaders with a certain level of managerial intelligence so that they can apply knowledge to build and maintain competitive advantage through healthy organizational governance mechanisms.

In accordance with the statement items in the questionnaire, this study describes managerial abilities that can be categorized as UMI activities, including:

1. Personal Knowledge Management indicator

- a. Maximizing employee database to explore the intellectual potential of each employee and distribute it to all members of the organization.
- b. Giving awards to outstanding employees openly and giving warnings/sanctions in a polite way to employees who make mistakes.
- c. Provide equal opportunities for all employees to perform according to their respective competencies. With this policy, lecturers and education staff will feel comfortable, appreciated, and can maximize work results.

2. Indicators of University Governance Management

- a. Leaders must ensure that higher education governance is determined based on laws and other applicable regulations and applies adequate Internal Quality Assurance System (SPMI) standards.
- b. Organizational management must be carried out transparently and provide sufficient space for alignment of the interests of shareholders and stakeholders.
- c. To get a conducive organizational climate, all organizational problems are resolved objectively (impartially) and privately (for personal problems).

3. Indicator of Information Technology Capabilities

Several statement items are presented to measure information technology indicators in UMI, including the benefits of IT for evaluating employee performance, student affairs, new student admissions, and measuring policy validity. The leadership capability in mastering IT will facilitate the leadership's efforts to make competitive IC.

4.5. The role of social media marketing as a moderator of the influence of intellectual capital and university managerial intelligence on organizational sustainability

This study proves that Social Media Marketing (SMM) is unable to moderate the effect of Intellectual Capital (IC) on Organizational Sustainability (KO). Similar conclusions also occur on the role of QMS as moderating the effect of University Managerial Intelligence (UMI) on KO. The test results for moderating the effect of IC on KO even showed a negative and insignificant coefficient of direction. This result means that the accuracy of the information in the QMS seems to be questioned by stakeholders. The public has a tendency not to simply trust the information presented by universities (private universities in East Java). Likewise, the role of SMM in moderating the influence of UMI on KO. Although the directional coefficient shows a positive value, this value is not significant enough to conclude that the QMS can moderate the effect of UMI on KO.

The determination of SMM as a moderating variable is based on the awareness of researchers about the time of research in the industrial era 4.0 as well as the busyness of SMM as a promotional medium for private universities to get new students. Higher education (in this case is a private university) needs

to inform all its strategic resources, which become competitiveness through appropriate marketing methods and are liked or understood by prospective students. As part of the millennial generation who is always connected to the internet, it is appropriate for higher education leaders to understand this. Therefore, higher education management and society/prospective students need to understand the role of social media as a communication platform that can have a substantial impact on the acquisition of new students and student motivation in learning.

To measure the use of SMM in higher education management, this study provides several questionnaire statements as indicators of content creation, content sharing, connecting, and communication building. For example:

- a. Adjusting the appearance of content with the preferences of students and prospective students as part of the millennial generation.
- b. Choose the type of social media that has a broader network.
- c. Provides open space for commenting on content.

This study proves that everything presented is not able to strengthen the influence of IC or UMI on KO. Several possibilities cause QMS cannot moderate the influence of IC and UMI on the sustainability of the organization. Although the literature on differences in individual attitudes in accepting or rejecting information between generations still exists, some experts argue that the differences are not meaningful. Generation X, Y, or even Z have almost the same way of digesting information. Thus, the information presented through the QMS should not have differences in perceptions between generations. Especially if it is related to the decision of the millennial generation in choosing campus as a place to gain knowledge. Prospective students are still very dependent on the attitude of their parents in digesting information. The results of the study prove that the information presented by private universities in social media is likely to be perceived differently by students and their parents as the primary decision-makers in campus selection.

If the opinions of these experts are related to the results of this study, it can be explained why QMS does not moderate the influence of IC and UMI on sustainability, namely:

- a. It is possible that the information presented “only” represents the needs of students or prospective students as a millennial generation without paying attention to the perceptions of parents who (maybe) do not understand social media marketing.
- b. Private Universities do not have a specific strategy to formulate the concept of social media marketing. What is done by private universities may only follow the current (current) but do not have a clear concept of how to build sustainability.

5. Conclusions

Organizational sustainability is the organization's ability to meet present needs without compromising the ability of future generations to meet their own needs. This definition means that organizational sustainability is something that must be fought for by all individuals in the organization. In this case, the leader can decide on a strategic policy regarding a strategy to build sustainability after identifying several variables that are proven to affect the sustainability of the organization. This research was conducted at private universities in the East Java region so that the concept of sustainability referred to in this study is the sustainability of private universities in East Java. The research results can be generalized to a limited extent only to other private universities in Indonesia, not to state universities. Several variables were analysed as variables predicted to affect organizational sustainability, namely Intellectual Capital as an independent variable, University Managerial Intelligence as a mediating variable, and Social Media Marketing as a moderating variable. This study concludes that a) Intellectual Capital has a positive and significant effect on the Sustainability of Private Higher Education Organizations

in East Java, b) Intellectual Capital has a positive and significant effect on University Managerial Intelligence at Private Universities in East Java, c) University Managerial Intelligence has an effect on Organizational Sustainability Private Universities in East Java, d) University Managerial Intelligence mediates the influence of Intellectual Capital on the Sustainability of Private Higher Education Organizations in East Java, e) Social Media Marketing does not moderate the influence of Intellectual Capital on the Sustainability of Private Higher Education Organizations in East Java, f) Social Media Marketing does not moderate the influence of University Managerial Intelligence on the Sustainability of Private Higher Education Organizations in East Java.

Funding

The authors received no direct funding for this research.

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Citation information

Cite this article as: Does social media marketing as moderating relationship between intellectual capital and organizational sustainability through university managerial intelligence? (empirical studies at private Universities in East Java), Siti Istikhoroh, Moeljadi, Made Sudarma & Siti Aisjah, *Cogent Business & Management* (2021), 8: 1905198.

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