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The Analysis Of *Dynamic Capabilities And Sustainable Competitiveness On Sustainable Performance* In Indonesia Private Higher Education

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Abstract

This study aims to investigate the relationship between dynamic capabilities, sustainable competitiveness, and sustainable performance in a dynamic business environment. The study used a quantitative research method using a questionnaire at private higher education in LLDIKTI Region X. From 242 existing private higher education, 162 respondent was collected. Data was analysed using SmartPLS software. The analysis consists of descriptive statistics, evaluation of measurement models, evaluation of structural models, and hypothesis testing. The results show that dynamic capabilities and sustainable competitiveness have a positive relationship. In addition, there is a positive relationship between dynamic capabilities and sustainable performance through the mediating role of sustainable competitiveness. The results also show that dynamic capabilities have a direct and indirect effect on sustainable performance, and there is a significant negative relationship between dynamic capabilities and sustainable performance. The results contribute to the novelty of strategic management literature.

Keywords: ***Dynamic Capabilities; Sustainable Competitiveness; Sustainable Performance; Private Higher Education***

1. INTRODUCTİON

The issue of the unhealthy nature of private universities/private higher education in Indonesia has been heard increasingly since the Covid-19 pandemic emerged. In 2022 the number of private universities will reach 90% of the 3,128 higher institutions in Indonesia (www.dpr.go.id). Reported on the page explained that the problem facing private higher education today is the high gap between private higher education and state higher education. This dichotomy between higher institutions can be seen from the pattern of state spending, especially in the Ministry of Education, Culture, Research, and Technology. Guidance or assistance intended for private higher education is less than 6% of the budget, while state higher education receive 94% of the total budget, even though private higher institution educate up to 72% of the students.

In 2021 LLDIKTI Region X Performance Report states that LLDIKTI X has achieved several indicators performance, while other indicators performance has not been achieved, there are only 19 private universities out of 236 private universities which have more than 3,000 (three thousand) students. The constraint on the quantity of private higher education in LLDIKTI Region X that too many is one of the reasons for the low number of private higher education with more than 3,000 (three thousand) students. So that the ratio of the number of private higher education is not balanced with the number of applicants. The low number of private universities did consolidate caused by the lack of interest and awareness of private higher education. Based on PDDIKTI data as of December 31, 2021, currently, in Region X LLDIKTI there are still 118 private higher education with fewer than 500 students. Of course, this encourages LLDIKTI Region X to continue to assist private higher education in merging/unifying with other campus to improve the quality management of higher institutions and the sustainability of higher institutions (sustainable performance).

Inequality between public and private universities as well as minimal government policies demand that private higher education must have sustainable competitiveness to be able to survive in the current conditions, so that the performance of higher education remains sustainable optimally (sustainable performance). As well known, sustainability is a trending topic in the literature. Thousands of articles are published every year related to sustainability in various ways. However, sustainable performance as a new term is still being ignored (Büyüközkan and Karabulut, 2018). Over time, research related to sustainable performance continues to develop, and research related to sustainable performance in higher education, which was conducted by Blasco et al., (2019), according to Omazic and Zunk (2021) education research is still lacking. On the other hand, dynamic capabilities can

improve performance, which can achieve management and technology competencies to increase company productivity and innovation (Ferreira and Coelho, 2020). Dynamic capabilities could be learned of as enablers that improve performance for the better, as research conducted by Kareem and Mijbas (2019) about organizational performance. Based on the background and the gap above, the purpose of this study was to investigate the relationship between dynamic capabilities and sustainable competitivenesss on sustainable performance.

2. LİTERATURE REVİEW

Dynamic capabilities define as the ability of organizations to deliberately create, expand, and modify resource pools to be able to react to rapid environmental changes (Helfat et al., 2007). Meanwhile, in the educational environment, the main managerial process that supports the dynamic capabilities of a university is its ability to perceive future opportunities and trends; prioritize resource investments; and, from time to time, offer new degree programs and research centers and institutes to capture the most promising opportunities. This inevitably also involves the transformation of universities to maintain resilience and harmony with their ecosystem (Teece, 2007). Dynamic capabilities can be categorized into three components, sensing, seizing/learning, and transforming/ reconfiguring. Given the dynamic environment, a company's resources must change over a period to remain relevant to changing market conditions. This perspective based on dynamic capabilities (Teece, Pisano, & Shuen, 1997).

Sustainable competitiveness is an organization's ability to compete sustainably in determining its competitive position, which is not necessarily a balanced competitive position (Cheba et al., 2020). Sustainable competitiveness has two dimensions, namely flexibility, and creativity. Flexibility in sustainable competitiveness is defined as an organization operating in a competitive and fierce environment that is very flexible because it is certain that the organization will tend to accept the price. When goods and services are flexibles, buyers and sellers quickly adjust their demand for goods and services when prices change (Oberholzer-Gee and Yao, 2018).

Sustainable performance is the capacity to meet the long-term needs of consumers and other stakeholders. Three dimensions for measuring sustainable performance include economic, environmental, and social (Abdul-Rasyid et al., 2017). Sustainable performance ensures that the company holistically balances economics, environment, and social performance goals. Thus, measuring performance from a sustainable perspective assists

companies in assessing efforts and achieving improvements related to environmental and social developments at all levels in the supply chain, while creating value for shareholders (Çankaya and Sezen, 2019). Various definitions related to sustainability began to emerge based on sustainability and its relationship with the organization, which resulted in corporate sustainability. Sustainability based on the triple bottom line (TBL) or sustainable performance (Henriques and Richardson, 2013). Likewise, the concept of sustainable performance refers to the unification of three dimensions, namely (1) economic, (2) social, and (3) environmental (Fauzi et al., 2010).

3. RESEARCH METHOD

3.1 Research Design

This research uses a deductive and quantitative approach. The deductive approach aims to test theories through collecting data from respondents and observing them by applying various statistical tests. Quantitative methods focus on collecting data according to problems from several populations and data analysis (Rahi, 2017). This research is hypothesis testing, which aims to explain the nature of certain relationships between variables, test the level of significance of the relationship between two or more variables (Cooper and Schindler, 2014). This study uses primary data collected directly from respondents to answer research problems, and the unit of analysis used is individuals, namely the leaders of private higher education.

3.2 Population and Sample

The population for this research is private higher education in LLDIKTI Region X, totaling 235 (December 2021), with the sample calculation according to the Slovin formula because the population size is known. The sample method in this study is to use a non-probability sample, which is each element of the populations does not have the same opportunity to be sampled (Ghozali, 2016). The method of determining the sample using purposive sampling, namely collecting samples based on certain criteria according to the research objectives. (Hair et al., 2015a). There are 162 leaders of private tertiary institutions who responded to questionnaires distributed offline and online.

3.3 Measurement Scale

All variables are measured using dimensions and indicator items. This study analyzes the variables of dynamic capabilities, sustainable competitiveness, and sustainable

performance with an interval scale through a Likert scale of 1-5, with descriptions 1 = Strongly Disagree, 2 = Disagree, 3 = Doubtful, 4 = Agree, and 5 = Strongly Agree. Data were processed and analyzed using PLS-SEM (partial least squares path model) and CB-SEM (covariance-based structural equation model) to test the relationship from one construct to another construct (Ghozali, 2015), as well as to develop research done or have done before. For the conceptual framework of this study is below:

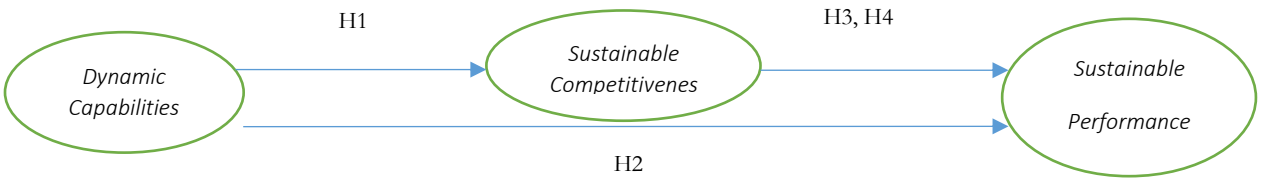

Figure 1: Conceptual Framework

4. RESULT

Evaluation of the measurement model or outer model begins with testing convergent validity and discriminant validity. The loading factor value for each indicator varies, and based on the number of samples the valid value is above 0.45 (Hair et al, 2014). The test results for convergent validity can be seen in Table 1 below:

Table 1. Convergent Validity Test

Variable	Indicator	Factor Loading	AVE
Dynamic capabilities	S1	0.749	0.628
	S2	0.741	
	S3	0.651	
	L1	0.667	
	L2	0.708	
	L3	0.753	
	R1	0.656	
	R2	0.848	
	R3	0.756	
Sustainable competitiveness	SC1	0.722	0.681
	SC2	0.413	
	SC3	0.857	
	SC4	0.809	
	SC5	0.882	
Sustainable performance	EP1	0.571	0.771
	EP2	0.873	
	EP3	0.851	
	EP4	0.766	
	SP1	0.728	
	SP2	0.708	
	SP3	0.793	
	SP4	0.763	
	SP5	0.708	
	Envp1	0.821	
	Envp2	0.707	
	Envp3	0.772	
	Envp4	0.771	
	Envp5	0.871	

From the table above, there is 1 invalid indicator, namely SC2, so the data is deleted in subsequent data processing to get maximum results in further processing. The invalid data could be corrected by taking more questionnaires, so that the amount of data processed increases and the validity results can change. Based on the results of testing the AVE value in the table above, it is 0.5 for all constructs in the research model, meaning that one latent variable can explain more than half of the variance of its indicators on average. After testing the validity, model measurements were also carried out to test the reliability of the construct. The reliability test result could be seen by looking at the value of Cronbach's Alpha and Composite Reliability. The requirements for construct reliability values are Cronbach's

Alpha and Composite Reliability values must be more than 0.7. The results of reliability testing can be seen in Table 2 below:

Table 2. Calculation of Composite Reliability

Variabel	Cronbach's Alpha	Composite Reliability
Dynamic capabilities	0,709	0,835
Sustainable competitiveness	0,842	0,895
Sustainable performance	0,850	0,910

Table 2 shows that the value of Cronbach's Alpha and Composite Reliability is more than 0.7, meaning that all constructs are reliable. Based on the results of validity and reliability testing, the measurement model test could move to structural model testing. Testing the feasibility of the model to evaluate the structural model is carried out by looking at the R2 value of the endogenous variables. The results of the model feasibility test have three categories, a strong model with an R2 value of 0.75, a moderate model with an R2 value of 0.50, and a weak model with an R2 value of 0.25. Table 3 shows the results of the feasibility test of the research model below:

Table 3. R-Square Value Results

Variabel	R^2	Adjusted R^2
Sustainable competitiveness	0,593	0,585
Sustainable performance	0,659	0,648

Based on the table above, the sustainable performance variable has an adjusted R2 value of 0.648 which is moderate because it is less than 0.75. The table shows that the variables of dynamic capabilities and sustainable competitiveness explaining sustainable performance by 64.8%, and the remaining 35.2% influenced by other variables outside the model. The adjusted R2 value for the variable sustainable competitiveness is 0.585, which indicates a moderate model because it is less than 0.75. The sustainable competitiveness variable explaining the dynamic capabilities of 58.5%, the remaining 41.5% is influenced by other variables outside the model. Meanwhile, the adjusted R2 value for the strategic maneuverability variable is 0.684, which indicates a moderate model because it is less than

0.75. From the results of direct and indirect effect tests, the following Table 4 shows the conclusions of all hypothesis testing.

Table 4. Hypothesis Testing Results

Hypothesis	Coefficients	P-Values	Signification
Dynamic capabilities -> sustainable competitiveness	0.419	0.000	H1 Supported
Dynamic capabilities -> sustainable performance	-0.048	0.699	H2 Not Supported
Dynamic capabilities -> sustainable competitiveness -> sustainable performance	0.086	0.089	H3 Supported
Sustainable competitiveness -> sustainable performance	0.205	0.025	H4 Supported

In this study, there is a mediating variable, the relationship between dynamic capabilities mediated by sustainable competitiveness on sustainable performance. Testing uses the Sobel test and calculations are carried out online because there are many pages on the website that do this calculation for free and quickly. Like the quantpsy.org page, which performs quite accurate calculations with the following:

Tabel 5. Sobel Test Result

	Input:		Test statistic:	Std. Error:	*p*-value:
a	0.419	Sobel test:	1.98859382	0.04319384	0.04674605
b	0.205	Aroian test:	1.94670182	0.04412335	0.05157049
s_a	0.099	Goodman test:	2.03331217	0.04224388	0.04202099
s_b	0.091	Reset all	Calculate		

The results above show that the Sobel test value is 0.04 <0.05, which means it is significant. Even for other results such as the Aroian Test and Goodman Test the results were all significant. According on the findings of the hypothesis testing in Table 4, the following hypothesis explanations are:

H1: Dynamic Capabilities Affect Sustainable Competitiveness

Table 5. above shows that the coefficient of dynamic capabilities is 0.419, meaning that the higher the perception of dynamic capabilities, the higher the perception of sustainable competitiveness. The test results show a P-Values of 0.000 <0.05 (alpha 5%). So, it can be concluded that at the 95 percent level of confidence there is a positive effect of dynamic capabilities on sustainable competitiveness. The results above are in accordance with research from Karman and Savaneviciene (2020), Lin and Chen (2017), and Phornlaphatrachakorn (2017) which show a positive relationship between dynamic capabilities and sustainable competitiveness.

Private higher education that already understand the concepts of sensing, learning and reconfiguration must be consistently practiced in daily operation so it can be competitive with other campuses. For example, pandemic, that taught many lessons that not all private higher education has succeeded in attracting prospective students even though they are affiliated with online agents. There are many good quality study programs, but not a single registrant. There are several things that could be the cause, such as a lack of public education to introduce private higher education and the study program has not been managed properly. So that one of them is private higher education must learn to improve its marketing performance, for example with an accurate promotion strategy and digital promotion that needs to be designed and executed.

Every private higher education needs to have a sense of competitiveness coupled with collaboration. Competitive collaboration here means that with existing resources can have a mutually beneficial relationship with partners, can increase income for each private higher education, and can increase your respective KPI together. So that the existing private higher education in the community still exist, still known, and the competitive level of private higher education remains high.

H2: Dynamic Capabilities Have No Effect on Sustainable Performance

Table 4 above shows that the coefficient of dynamic capabilities is -0.048, meaning that the higher the perception of dynamic capabilities, the lower the perception of sustainable performance. The test results are not in accordance with the proposed hypothesis where the P-Values is 0.699, meaning that there is no positive effect between dynamic capabilities on sustainable performance. This is contrary to the research of Zollo and Winter (2002); Macher and Mowery (2009); Drnevich and Kriauciunas (2011); Prange and Verdier (2011); Protogerou et al., (2012); Wilden et al., (2013); Lin and Wu, (2014) and Wang et al., (2015).

H3: Sustainable Competitiveness Mediates Effect of Dynamic Capabilities and Sustainable Performance

Table 4 above shows the magnitude of the coefficient of sustainable competitiveness mediating the effect of dynamic capabilities on sustainable performance, which is 0.086. It means that the higher the perception of sustainable competitiveness mediated the influence of dynamic capabilities, the higher the sustainable performance. The test results show a P-Values of 0.089 > 0.10 (alpha 10%). So it can be concluded statistically that at the 90 percent confidence level, sustainable competitiveness mediates the effect of dynamic capabilities on sustainable performance. This is in accordance with research from Gabler et al., (2015); Fung et al., (2020); Todeschini et al., (2020); Moretto et al., (2018). It should be noted that dynamic capabilities and corporate sustainability are interrelated. It means that the two must be combined as a coherent mechanism for linking sustainable external requirements to the reallocation of internal resources and capabilities (Wu et al., 2014). Karman and Savaneviciene (2020) assume that sustainability practices also contribute to competitive performance and processes. Competitive performance is the result of performance related to competitors. Eccles et al., (2011) found that high sustainability within an organization can significantly outperform competitors in the long run, both in terms of the stock market and financial performance.

H4: Sustainable Competitiveness Affects Sustainable Performance

Table 4 above shows that the coefficient of sustainable competitiveness is 0.205. Its means that the higher the perception of sustainable competitiveness, the higher the perception of sustainable performance. The test results show a P-Values of 0.025 <0.05 (alpha 5%), so it can be concluded statistically that at a 95 percent confidence level there is a positive effect of sustainable competitiveness on sustainable performance. The same thing has shown by Carlin et al., (2001); Dethier (2010); Freixanet (2012).

4. Conclusion and Suggestion

This research was conducted to analyze the effect of sustainable performance on private higher education in Region X LLDIKTI. Private tertiary institutions must apply the concept of dynamic capabilities and sustainable competitiveness to improve sustainable performance. The results of this study indicate that dynamic capabilities do not affect sustainable performance. Another variable, namely sustainable competitiveness, has a

significant direct effect. Based on the results of the data analysis test performed, following are the conclusions:

1. Dynamic capabilities have a significant positive effect on sustainable competitiveness. It means that if private higher education is improve their ability to "read" the environment, learn from various sources, and adjust to changing needs, then private tertiary institutions can still have unique and superior capabilities compared to other campuses so that private tertiary institutions can still thrive and citizen can rely on it.
2. Dynamic capabilities do not have a significant positive effect on sustainable performance. It would be interpreted that sensing, seizing and reconfiguration do not determine the performance improvement of private tertiary institutions at LLDIKTI X. Other factors still have a big influence on improving performance. For example, if a private higher education wants to learn and adapt but is hampered by procedures, internal conflicts, budgets, leadership policies, and so on, then this will certainly have an impact on performance. Short-term performance may be achieved but in the long-term it will be difficult. This is different from previous studies that showed a positive effect between dynamic capabilities and sustainable performance. Many factors affect the sustainable performance of private tertiary institutions, but research shows that campuses must still have strong instincts, learn, and adapt to changes in the environment to survive.
3. Sustainable competitiveness mediates the relationship between dynamic capabilities and sustainable performance. This means that sustainable competitiveness has a major influence in increasing the relationship between dynamic capabilities and sustainable performance. It means that private tertiary institutions must have closeness with stakeholders, carry out investment strategies in other fields, carry out technology commercialization, and openness in internal management attitudes towards changes that can increase the level of competition in private tertiary institutions. For long-term goals, private tertiary institutions can create loyalty programs for student families, such as giving discounts if members on one family card register to the same campus. Then improve the image and reputation of the organization with social media publications and Google Ads.
4. Sustainable competitiveness has a significant positive effect on sustainable performance. It means that the competitive level of individuals and all department in private tertiary institutions is needed to stabilize or improve institutional performance. If the competitive spirit is lacking, it will be difficult to survive in a disruptive situation. Thus, affecting the performance of universities.

Based on the limitations of the research, suggestions that can be given for further research are as follows:

1. Future research is expected to be able to discuss variables outside this research model, namely the variable competence sustainability in higher education studied by Kioupi and Voulvoulis (2022), so that universities own and increase their contribution to campus sustainability.
2. Research more optimal next can take samples from the ranks of the foundation, but it needs a special approach and direct efforts to the foundation related to the difficulty of access.
3. Further research can be carried out at the level of state universities, private senior secondary education and other sectors that are still under-researched.

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