

Synergy Digital and Social Assets : Analysis The Influence of Intellectual Capital and CSR on Sustainabel Competitive Sustainable Conventional Banks

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ABSTRACT

This study examines how Intellectual Capital and Corporate Social Responsibility influence Sustainable Competitive Advantage in traditional Indonesian banks. In the banking sector, research on the synergy between these two elements is scarce. The secondary data used in this quantitative study comes from ninety-two observations of banks listed on the Indonesia Stock Exchange (IDX) between 2021 and 2024. Random Effects Model and panel data regression were used to analyze the data. The t-test findings show that Intellectual Capital has a positive and significant influence on SCA, with a probability of 0.0003. In contrast, CSR was shown to have no significant influence on SCA, with a likelihood value of 0.8408. It is determined that SCA (measured by ROA) is mainly driven by internal investments in efficiency and knowledge, whereas CSR is viewed in the short term as a cost that has no immediate influence on asset profitability.

Keywords: Intellectual Capital, Corporate Social Responsibility, Sustainable Competitive advantage.

INTRODUCTION

The banking sector is essential to the economy of every country, as many economic activities are either directly or indirectly supported by banks. In Indonesia, the banking industry has a special role, especially since the country is still developing in many areas. This is explained in Article 4 of Law No. 1998. The goal of Indonesian banking is to help the nation grow by improving fairness, boosting economic development, and ensuring stability for the benefit of society [1]. Quick progress in information technology and innovation has led to the rise of a "new economy," causing a big change in how businesses operate. Instead of focusing mainly on physical wealth, the new approach values intellectual property more. Unlike before, when businesses focused on physical assets, they are now also investing in non-physical assets.

In today's economy, companies can't rely just on physical assets that are easy to copy. The real key to staying competitive now is something else—something that can't be easily imitated. This new focus is on intangible assets, especially those related to knowledge, technology, and information. These are called intellectual capital. Intellectual capital includes all the knowledge and technology a company owns that gives it an edge in the market. It helps the company reach its goals and deliver more value to its stakeholders.

For traditional banks, intellectual capital is especially important in creating a lasting competitive advantage. This advantage comes from three main parts of intellectual capital. The first part is human capital, which refers to the knowledge and skills of employees. In the banking industry, this is the base for

a strong competitive advantage. With digital banking becoming more common, banks need employees who can offer personalized, high-quality service that can't be replaced by algorithms. For example, managing complex wealth or giving advice on personal finances requires human expertise that machines can't easily copy. Research by Trisnani (2024) shows that human capital has a big impact on financial performance, which is a sign of competitive strength. Banks that invest in training and keeping their best talent are better at managing risks and understanding customer needs [2].

Second, Structural Capital, which includes systems, platforms, and infrastructure, is very important for efficiency. For traditional banks, this means the ability to combine their old systems with new financial technology (fintech). Research by Azmi et al. (2021) shows that good structural capital, like efficient automation systems, helps banks increase productivity and focus on important tasks. This ultimately helps them create more value and gain a competitive edge.

Third, Relational Capital, also known as customer capital, is a key asset in industries that rely on trust. This form of intellectual capital helps banks build long-term customer loyalty. Hs et al. (2025) found that strengthening intellectual capital can boost competitive advantage, which in turn improves financial performance [3]. Based on the Resource-Based View (RBV), intellectual capital is a valuable, rare, and hard-to-copy resource (VRIN), which allows traditional banks not only to survive but also to outperform their competitors.

Besides intellectual capital, Corporate Social Responsibility (CSR) has changed from being just a charitable duty into a key part of strategy for achieving Sustainable Competitive Advantage (SCA). In the traditional banking industry, which is often closely watched by the public and government regulators, CSR plays a major role in building a company's credibility and reputation, which are central to gaining a competitive edge. CSR is an intentional activity driven by concern for the environment and ethical values. A company that focuses on both economic success and social responsibility (Kristin et al., 2024) is more likely to thrive. The Indonesian Constitution, specifically Law Number 40 of 2007 on Limited Liability Companies, states that CSR is not optional for all companies and cannot be ignored, as doing so may result in penalties under relevant laws and regulations. The implementation of CSR is not sufficient on its own to address internal and external challenges a company faces [4].

The effect of CSR on SCA can be understood through Stakeholder Theory. As explained by Luh & Merta (2024), this theory suggests that when a company meets the expectations of its stakeholders—such as customers, employees, and the local community—it builds loyalty and trust. Conventional banks that actively participate in CSR initiatives, like green financing or financial inclusion programs, are progressively seen as responsible and reliable entities. Research by Adelia & Kustinah (2025) shows that CSR practices positively affect a bank's financial sustainability, which is a key indicator of SCA [5].

More importantly, strategic corporate social responsibility, especially the type that focuses on the environment (Environmental, Social, and Governance - ESG), can act as a key differentiator in the market. Rizal (2022) found that corporate social responsibility has a significant impact on the financial performance of banks, and other research shows how CSR and green finance contribute to environmental performance. As customers and investors become more aware of environmental issues, traditional banks that lead in practicing sustainability will be able to attract more quality capital and customers. Therefore, CSR is not just a cost, but a strategic investment that helps build a long-term and strong competitive position for banks in the face of increasing social demands.

Based on the above discussion, this research becomes crucial for implementation. Along with the shift in the economy from a physical asset-based model to a knowledge-based one (the new economy), intellectual capital (IC) has been recognized as a main source of strategic power for creating competitive superiority. However, at the same time, banks, as the pulse of the economy, are also being called upon to fulfill their social responsibility (CSR), a factor that has also been studied for its influence on performance. Still, there are limited studies that analyze how the synergy between intellectual capital (IC) and social capital (CSR) can simultaneously influence sustainable competitive advantage (SCA) in the conventional banking sector, which is vital for national development. Therefore, researchers are motivated to fill this gap by conducting an empirical analysis of how intellectual capital and corporate social responsibility influence sustainable competitive advantage in the conventional banking sector in Indonesia.

Resource-Based Theory (RBT)

Resource-Based Theory was first introduced by Penrose in 2009. He focused on how companies can manage their sources of power effectively, use diversification strategies, and take advantage of productive opportunities [6]. The resource-based theory looks at how a company can achieve a competitive advantage by developing and analyzing the resources it owns. These resources are often intangible, like

knowledge or economic assets that are not physical[7]. Barney explained that in RBV, a company cannot easily buy or copy a sustainable competitive advantage from another organization. This is because the resources that give a company an edge are usually rare, hard to imitate, and not easily replaced. To gain a competitive advantage, a company can develop and use its own resources, especially its financial capital. When intellectual capital is managed well, it can create added value for the company, which in turn affects its performance and overall value (Kuryanto, 2008).

This study applies RBT to explain how intellectual capital, made up of three main components, contributes to sustainable competitive advantage. First, human capital, which includes the skills and knowledge of employees, is a resource that is hard for competitors to copy. Investing in talent has a big impact on company performance. Second, structural capital, such as the systems and infrastructure of an organization, helps improve efficiency and innovation, which are also hard to copy. A study by Azmi et al. (2021) shows that strong structural capital directly helps build competitive advantage. Third, relational capital, which involves relationships with customers and building long-term loyalty, is also important. Empirical research by Hs et al. (2025) confirms that strengthening intellectual capital overall can boost competitive advantage and financial performance.

Stakeholder Theory

Freeman first used the word "stakeholder" in 1984. According to theory stakeholders interests, a business must can maintain the relationship with stakeholders interest For influence achievement the goal, because business basically must serve interests of stakeholders interest besides interest they Alone [8]. The company does not only responsible answer to holder shares (*shareholders*) for maximize profit, but also has not quite enough answer to all individual or groups that can influence or influenced by achievement objective company. Stakeholders interest This covers employees, customers, suppliers, community local, and regulators.

CSR, or corporate social responsibility, is a real example of stakeholder theory in action. When companies take part in CSR, they work to build and maintain good relationships with all their stakeholders, both inside and outside the company. In the case of traditional banks, this theory is very important. By meeting the needs of society, like through eco-friendly loans or programs that bring financial services to more people, banks can create trust and a better reputation. Studies like the one by Luh & Merta (2024) show that when banks meet the expectations of their stakeholders, it helps build customer loyalty. Research by Adelia & Kustinah (2025) backs this up, showing that CSR activities have a positive effect on the financial health of banks. Likewise, Rizal (2022) found that CSR has a big impact on how well banks perform. This shows that taking care of social responsibilities is not just about being good, but also a smart investment for long-term success, which fits with the ideas of stakeholder theory.

Sustainable Competitive Advantage

Superiority Competitive Sustainable (SCA) means a company's ability to create and keep a strong position in the market over the long term. It's not just about being better for a short time, but about having a strategy that lets the company consistently beat its competitors. The main idea behind understanding SCA comes from the Resource-Based View (RBV) theory. This theory says that SCA doesn't come just from outside factors, but from using internal resources that are valuable, rare, hard to copy, and not easily replaced (VRIN). As the economy moves toward being knowledge-based, RBV shows that power is shifting from physical assets to intangible ones. Modern studies back this up, explaining that an organization's ability to creatively respond to tech and innovation opportunities is key to achieving sustainable competitiveness (Singh et al., 2021). So, SCA is the result of a company's unique ability to manage and combine its internal strengths, like intellectual capital and CSR, to create values that competitors can't easily copy.

Intellectual Capital

Intellectual Capital (IC) is seen as an important asset in today's knowledge-based economy, but it's not the most critical type of asset. IC refers to the knowledge, technology, and information that a company owns, which gives it a competitive edge and helps achieve its goals while benefiting stakeholders. For traditional banks, IC plays a key role in building a sustainable competitive advantage. This idea is based on the Resource-Based Theory (RBT), which argues that intellectual resources are valuable, rare, hard to copy, and cannot be easily replaced (VRIN). These characteristics allow a company to stand out from its competitors.

RBT suggests that a company can achieve a sustainable competitive advantage when it effectively manages internal resources that are valuable, rare, inimitable, and non-substitutable (VRIN). Research has identified IC as an asset that doesn't fully meet the VRIN criteria, and it is made up of three parts: human capital, structural capital, and relational capital. Good management of IC helps banks create a unique advantage that is hard for competitors to copy. Several empirical studies, like those by Hs et al.

(2025), support the idea that strengthening IC leads to a stronger competitive advantage. Based on both theoretical arguments and these findings, the following hypothesis is proposed:

Hypothesis 1 (H1): Intellectual Capital (IC) has a positive and significant impact on Competitive Advantage.

Corporate Social Responsibility

Corporate Social Responsibility (CSR) in the banking sector involves actions taken by companies that are concerned with ethical issues and aim for economic success. However, at present, this is no longer sufficient to meet the requirements set by the Constitution of the Republic of Indonesia number 40 of 2007. The way CSR is implemented is not fully meeting the expectations of both internal and external environments. The influence of CSR is explained through Stakeholder Theory, which says that a company should respond to the needs of all individuals or groups affected by its activities. Banks that are actively involved in CSR programs, like green finance or inclusion finance, generally build their legitimacy and reputation, which are key to gaining a competitive edge. By meeting the expectations of stakeholders, banks create strong customer loyalty.

Stakeholder Theory offers a framework for understanding CSR, confirming that companies are responsible not just to shareholders, but also to all stakeholders, such as employees, customers, and the community. CSR is a way of showing that companies are fulfilling their responsibilities. By running strategic CSR programs like green finance or inclusion finance, banks build their legitimacy, reputation, and customer loyalty. This is not seen as a cost, but rather as a strategic investment. Previous studies, such as those by Adelia & Kustinah (2025) and Rizal (2022), show that CSR has a positive and significant impact on financial sustainability and performance, which are key indicators from SCA. Therefore, the second hypothesis is formulated as:

Hypothesis 2 (H2): Corporate Social Responsibility (CSR) has a positive and significant impact on Competitive Superiority.

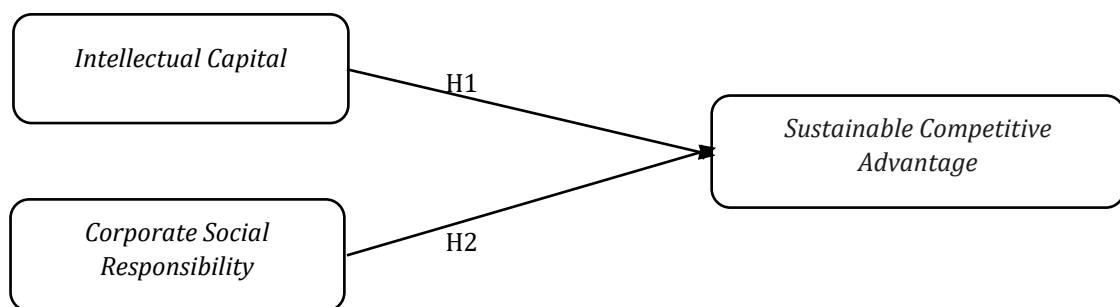


Figure 1. Conceptual Framework

RESEARCH METHOD

Methodology study is based on a technique study that is quantitative. To answer research problems, quantitative research uses data in the form of numerical marks. When testing a theory or explaining a phenomenon, this method focuses on objective measurement, standardized data collection, and statistical analysis [9]. The aim is to use numerical data to test in an objective way, as the consequences that occur are based on theory. This method supports strong statistics to either support or reject a hypothesis and allows for possible results to be extended to a larger population.

The study will use secondary data from the conventional bank sector listed on the IDX for the years 2021 to 2024 to achieve the stated objectives. The sampling technique will be used to select the sample. Purposive sampling is a strategy for selecting a sample with specific considerations, according to Sugiyono (2019).

Variables and Definitions Operational Variables

In studies, variables can be divided into two types: independent variables and dependent variables. The independent variables, also called predictor variables, are Intellectual Capital (X1) and Corporate Social Responsibility (X2). The dependent variable, also known as the outcome variable, is Excellence Competitive Sustainable (Y1).

Table 2. Operational Definition of Variables

No	Variable Name	Definition Variables	Indicator
1.	<i>Intellectual Capital (X1)</i>	<i>Intellectual Capital (GIC)</i> is Intellectual capital is something assets owned by the company related with knowledge and technology information that provides competitive advantages for company .	Formula Count <i>Intellectual Capital</i> : $VAIC = VACA + VAHU + STVA$ VAIC: Value Added Intellectual Coefficient VACA: Value added Capital Employed VAHU: Value added Human Capital STVA : Structural Capital Value Added
2.	<i>Corporate Social Responsibility (X2)</i>	<i>Corporate Social Responsibility (CSR)</i> is variables independent related responsibility social and environmental related companies with group specifically concerned and with public in a way overall .	CSR is measured using 20 adopted CSR assessment items from the Global Reporting Initiative (GRI). The company will given score 1 for each item disclosed , whereas If No expressed given score 0. Formula count <i>Corporate Social Responsibility</i> : $CSR = \frac{\text{Total items disclosed per element}}{\text{Total number of items per element}}$
3.	Superiority Competitive Advantage (Y)	Superiority Competitive Advantage is ability something company For maintain superiority on its competitors in term long .	Superiority Competitive Advantage is measured use ratio <i>Return on Assets (ROA)</i> . Formula counting <i>Return on Assets (ROA)</i> : $ROA = \frac{\text{Net Profit}}{\text{Total Assets}}$

RESULTS AND DISCUSSION

Hausman Test Results

Table 3. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.999.574	2	0.3680

Based on the results of the Hausment Test, the random cross-section probability value was 0.3680. This probability value is greater than the significance level (0.05). According to the Hausment Test decision-making criteria, if the probability value is >0.05, then the more appropriate and efficient model for use in the panel data regression analysis in this study is the Random Effects Model (REM).

Lagrange Multiplier Test

Table 4. Lagrange Multiplier Test

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	103.0432	1.856070	104.8993
	(0.0000)	(0.1731)	(0.0000)

Based on the data processing results of the Lagrange Multiplier Test that has been conducted, the Breusch Pagan Cross-section probability value is 0.0000. This value is significantly smaller than the significance level (0.05). In accordance with the decision-making criteria, because the probability value of $0.0000 < 0.05$, the null hypothesis (H0) stating the presence of a random effect is accepted. Based on these two tests, the most appropriate and selected model for use in the panel data regression analysis in this study is the Random Effect Model (CEM).

Descriptive Statistical Test

Table 5. Descriptive Statistical Test

	Y	X1	X2
Mean	0.020935	3.368991	0.790217
Median	0.015850	3.122873	0.850000
Maximum	0.114300	6.969226	1.000000
Minimum	0.000400	1.427840	0.100000
Std. Dev.	0.019210	1.276009	0.242496
Skewness	2.491488	0.954318	-1.449061
Kurtosis	11.60459	3.362527	4.191276
Jarque-Bera	378.9980	14.46822	37.63662
Probability	0.000000	0.000722	0.000000
Sum	1.926000	309.9472	72.70000
Sum Sq. Dev.	0.033580	148.1662	5.351196
Observations	92	92	92

Based on the results of the descriptive statistical test in the table above, it shows that the number of valid research data for each variable is 92, which comes from banking sector companies listed on the Indonesia Stock Exchange for the period 2021-2024. The results of the descriptive statistical test for the

VAIC variable show a minimum value of 1.427840, namely at PT Bank MNC Internasional Tbk. In 2021, the maximum value was 6.969226 from PT Allo Bank Indonesia Tbk. In 2022, the mean (average) was 3.368991 with a standard deviation of 148.1662. The results of the descriptive statistical test for the ROA variable show a minimum value of 0.000400 at PT Bank Mayapada Internasional Tbk in 2022, 2023, and 2024, the maximum value was 0.114300 at PT Bank BTPN Syariah Tbk. In 2022, the mean (average) was 0.020935, with a standard deviation of 0.033580. Meanwhile, the results of the last descriptive statistical test, namely CSR, showed a minimum value of 0.100000 in PT Allo Bank Indonesia Tbk in 2022, PT Bank Mega Tbk. In 2022, and Bank Pembangunan Daerah Jawa Barat dan Banten Tbk in 2024. The maximum value of 1,000,000 was found in several companies, including PT Allo Bank Indonesia Tbk in 2024, PT Bank Negara Indonesia (Persero) Tbk in 2021, and PT. Bank Rakyat Indonesia (Persero) Tbk. In 2021. The mean (average) was 0.790217, with a standard deviation of 5.351196.

Classical Assumption Test

Multicollinearity Test

Table 6. Multicollinearity Test

	X1	X2
X1	1	-0.1300190069320193
X2	-0.1300190069320193	1

Based on the guidelines proposed by Napitupulu et al. (2021: 141), if the correlation coefficient between independent variables is less than 0.85, the regression model can be concluded to be free from multicollinearity. This correlation coefficient value is -0.1300190069320193, which is less than the specified limit of 0.85. Thus, it can be concluded that there are no serious multicollinearity problems between variables X1 and X2 in this study's regression model. These results indicate that the regression model has passed the multicollinearity test and is suitable for use in further analysis.

Heteroscedasticity Test

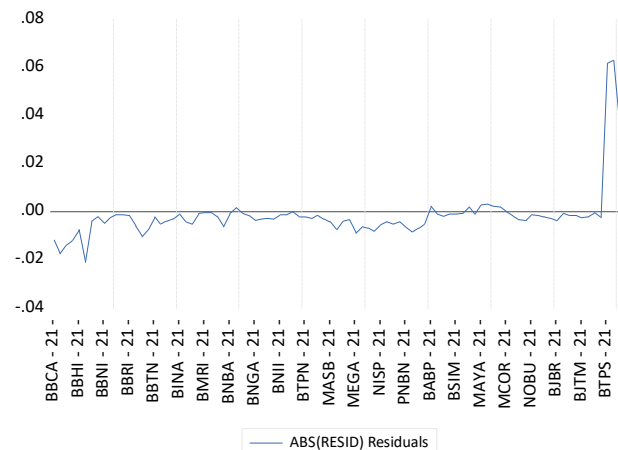


Figure 1. Heteroscedasticity Test

Based on the residual graph (in blue), it can be seen that it does not exceed the ± 500 limit, as it only reaches -2 and 6. This means that the residual variances are the same, therefore there are no symptoms of heteroscedasticity and passes the heteroscedasticity test (Napitupulu et al., 2021: 143).

Panel Regression Equation

Estimation Equation:

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$$Y = C(1) + C(2)*X1 + C(3)*X2 + [CX=R]$$

Substituted Coefficients:

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$$Y = -0.0187054824528 + 0.010683630232*X1 + 0.00461544993228*X2 + [CX=R]$$

The panel data regression equation in this study aims to test the effect of CSR and VAIC variables on ROA. Therefore, the multiple linear regression equation model can be formulated as:

$$Y = C(1) + C(2)*X1 + C(3)*X2 + [CX=R]$$

Based on the results of the panel data regression analysis above, the data are distributed in the following equation model:

$$Y = -0.0187054824528 + 0.010683630232*X1 + 0.00461544993228*X2 + [CX=R]$$

It can be concluded that:

1. The constant value of 0.0187054824528 indicates that if the independent variables X1 and X2 are assumed to be zero, then the value of the dependent variable Y is predicted to be 0.0187054824528.
2. The VAIC variable shows a regression coefficient of 0.00461544993228. This indicates that for every one (1) percent increase, the VAIC will increase by 0.00461544993228, assuming all independent variables remain constant.
3. The CSR variable shows a regression coefficient of 0.00461544993228. This indicates that for every one (1) percent increase, the CSR will increase by 0.00461544993228, assuming all independent variables remain constant.

Determination Test

Table 7. Determination Test
Weighted Statistics

R-squared	0.451716	Mean dependent var	0.003651
Adjusted R-squared	0.439395	S.D. dependent var	0.006852
S.E. of regression	0.005131	Sum squared resid	0.002343
F-statistic	36.66236	Durbin-Watson stat	1.301433
Prob(F-statistic)	0.000000		

Based on the table above, the Adjusted R-squared value is 0.439395 < 0.5, indicating that the model is not yet optimal and still has room for improvement. Model strengthening can be achieved through refinement of variable selection, exploration of additional variables, or model restructuring.

F Test (Simultaneous)

Table 8. F Test (Simultaneous)
Weighted Statistics

R-squared	0.451716	Mean dependent var	0.003651
Adjusted R-squared	0.439395	S.D. dependent var	0.006852
S.E. of regression	0.005131	Sum squared resid	0.002343
F-statistic	36.66236	Durbin-Watson stat	1.301433
Prob(F-statistic)	0.000000		

Based on the results of the F test with an F-statistic value of 36.66236, it can be stated that the overall regression model is significant.

t-test (Partial)

Table 9. t-test (Partial)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.007388	0.005219	-1.415612	0.1604
X1	0.004179	0.001100	3.800663	0.0003
X2	0.000467	0.002319	0.201522	0.8408

Based on the results of the T-test analysis, it can be concluded that the influence of independent variables on the dependent variable varies. Variable X1 (Intellectual Capital) is proven to have a positive and partially significant influence on Y (Sustainable Competitive Advantage). This is indicated by a probability value of 0.0003, which is much smaller than the significance level of 0.05. This means that the higher the Intellectual Capital, the Sustainable Competitive Advantage will also tend to increase. On the other hand, variable X2 (Corporate Social Responsibility) was found to have no significant influence on Y (Sustainable Competitive Advantage). This conclusion was drawn because the probability value was 0.8408, which was much greater than 0.05.

Software Use

This study uses a quantitative method and relies on secondary data. The data was collected by gathering financial and annual reports from a sample of conventional banking companies listed on the Indonesia Stock Exchange (IDX) for the years 2021 to 2024. The data was obtained from the official website of the IDX and also from the websites of each company.

Once the data was collected, it was organized and placed into a panel format using Microsoft Excel. This involved arranging the dependent variable (Y) and the independent variables (X1, X2) for a total of 92 observations.

The next step was to perform statistical analysis and test hypotheses using EViews, an econometric software. This software is used for panel data regression analysis, which includes several steps:

1. Choosing the best model for estimation (using the Hausman Test and Lagrange Multiplier Test).
2. Testing classical assumptions, such as checking for multicollinearity and heteroscedasticity.
3. Conducting panel data regression and hypothesis testing (F Test and T Test) to examine how the variables affect each other.

CONCLUSION

Based on the data analysis using a T-test, we can conclude the following:

Hypothesis 1 (H1), which states that Intellectual Capital (IC) has a positive and significant effect on Competitive Advantage, **is strongly supported**.

This means that IC is not just an intangible asset but plays a major role in improving Sustainable Competitive Advantage. In this study, Competitive Advantage is measured using the Return on Assets (ROA) ratio, looking at both the numerator and denominator. The T-test results for variable X1 (Intellectual Capital) show a probability value of 0.0003, which is much lower than the standard significance level of 0.05. This confirms that Intellectual Capital (X1) has a positive and significant impact on Competitive Advantage (Y). This suggests that when Intellectual Capital increases, it also leads to greater Sustainable Competitive Advantage in the conventional banks studied. These findings support the Resource-Based Theory (RBT) used in this study, which views IC as a vital intangible asset for adding value. Financially, IC has been shown to be a smart investment. For instance, better Human Capital can lower credit risk costs, and Structural Capital, like efficient technology, can cut down operational costs. On the other hand, IC investments also help banks serve more customers and generate more revenue with the same amount of assets, which raises asset turnover. In summary, IC has been proven to cut costs and improve asset efficiency, leading to a significant rise in ROA, as shown by the probability value of 0.0003.

Hypothesis 2 (H2): Corporate Social Responsibility (CSR) has a positive and significant effect on Competitive Advantage, **is rejected**.

This is because the T-test results for variable X2 (Corporate Social Responsibility) show a probability value of 0.8408, which is much higher than the significance level of 0.05. This means that Corporate Social Responsibility (X2) does not significantly affect Competitive Advantage (Y). In this study, CSR has not been shown to be a statistically significant factor in improving sustainable competitive advantage. These findings go against Stakeholder Theory and several earlier studies that support the hypothesis, which use ROA as a measure of competitive advantage. Unlike IC, where efficiency gains are clearly visible, short-term CSR efforts are usually treated as expenses in financial reports. Programs like philanthropy, green financing, or social initiatives raise operating costs, which directly lower Net Profit (the top part of the ROA formula). Even though Stakeholder Theory claims that CSR builds long-term reputation and customer loyalty, these benefits take time to show up and don't immediately improve Total Asset efficiency. So, during the study period, CSR seems more like a cost rather than a source of financial gain, and therefore, it hasn't been shown to have a meaningful impact on ROA.

In summary, the study found that for regular banks during the study time, competitive advantage (ROA) was mainly influenced by internal investments in efficiency, knowledge, and technology (IC). On the other hand, external efforts like CSR have not been proven to significantly boost short-term asset profitability

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APPENDIX

NO	KODE	PERUSAHAAN	TAHUN	VAIC	CSR	ROA
1	BBCA	PT Bank Central Asia Tbk	2021	5,09	0,90	0,03
			2022	5,99	0,85	0,03
			2023	6,04	0,85	0,04
			2024	6,17	0,75	0,04
2	BBHI	PT Allo Bank Indonesia Tbk	2021	6,68	0,45	0,05
			2022	6,97	0,10	0,04
			2023	6,20	0,85	0,05
			2024	5,69	1,00	0,04
3	BBNI	PT Bank Negara Indonesia (Persero)	2021	3,07	1,00	0,01
			2022	3,94	0,85	0,03
			2023	3,92	0,85	0,03
			2024	3,81	0,90	0,03
4	BBRI	PT Bank Rakyat Indonesia (Persero) Tbk	2021	2,98	1,00	0,03
			2022	3,74	0,90	0,04
			2023	4,17	0,70	0,04
			2024	4,19	0,90	0,04
5	BBTN	PT Bank Tabungan Negara (Persero) Tbk	2021	2,76	1,00	0,01
			2022	2,93	0,65	0,01
			2023	3,15	1,00	0,01
			2024	2,78	0,75	0,01
6	BINA	PT Bank Ina Perdana Tbk	2021	2,25	0,65	0,00
			2022	3,40	0,80	0,01
			2023	3,21	0,85	0,01
			2024	2,12	0,80	0,00
7	BMRI	PT Bank Mandiri (Persero) Tbk	2021	3,71	1,00	0,03
			2022	4,43	1,00	0,03
			2023	5,29	0,90	0,04
			2024	5,39	0,70	0,04
8	BNBA	Bank Bumi Arta Tbk.	2021	2,06	1,00	0,01
			2022	1,88	0,35	0,01
			2023	1,92	0,80	0,01
			2024	2,12	0,90	0,01
9	BNGA	PT Bank CIMB Niaga Tbk	2021	3,55	0,70	0,02
			2022	3,85	0,45	0,02
			2023	4,07	0,80	0,03
			2024	4,07	0,75	0,03
10	BNII	PT Bank Maybank Indonesia Tbk	2021	2,76	0,80	0,01
			2022	2,58	1,00	0,01
			2023	2,64	1,00	0,01
			2024	2,22	0,35	0,01
11	BTPN	PT Bank SMBC Indonesia Tbk	2021	3,19	1,00	0,02
			2022	3,37	0,90	0,02
			2023	2,77	1,00	0,02
			2024	2,67	0,95	0,02
12	MASB	Bank Multiarta Sentosa Tbk.	2021	3,50	1,00	0,01
			2022	4,01	0,35	0,02
			2023	2,92	0,80	0,01
			2024	2,63	0,70	0,01
13	MEGA	Bank Mega Tbk	2021	6,09	1,00	0,04
			2022	6,02	0,10	0,04
			2023	5,23	0,90	0,03
			2024	4,50	0,85	0,03
14	NISP	PT Bank OCBC NISP Tbk	2021	3,25	1,00	0,02
			2022	3,55	0,75	0,02
			2023	3,85	0,85	0,02
			2024	3,85	0,85	0,02
15	PNBN	Bank Pan Indonesia Tbk	2021	3,21	1,00	0,01
			2022	3,89	0,95	0,02
			2023	3,50	0,80	0,02
			2024	3,37	0,70	0,02
16	BABP	Bank MNC Internasional Tbk.	2021	1,43	1,00	0,00
			2022	2,37	1,00	0,01
			2023	2,15	1,00	0,01
			2024	2,11	0,90	0,01
17	BSIM	Bank Sinarmas Tbk	2021	2,05	0,45	0,00
			2022	2,15	1,00	0,01
			2023	1,76	0,90	0,00
			2024	2,17	0,20	0,01
18	MAYA	PT Bank Mayapada Internasional Tbk	2021	1,72	1,00	0,00
			2022	1,67	1,00	0,00
			2023	1,61	0,85	0,00
			2024	1,66	0,70	0,00
19	MCOR	PT Bank China Construction Bank Indonesia Tbk	2021	2,07	0,85	0,00
			2022	2,40	1,00	0,01
			2023	2,81	0,90	0,01
			2024	3,12	0,20	0,01
20	NOBU	Bank Nationalnobu Tbk.	2021	2,04	0,75	0,01
			2022	2,28	1,00	0,01
			2023	2,30	0,90	0,01
			2024	3,13	0,40	0,01
21	BJBR	Bank Pembangunan Daerah Jawa Barat dan Banten Tbk	2021	2,95	0,25	0,02
			2022	2,90	1,00	0,02
			2023	2,77	0,80	0,01
			2024	2,50	0,10	0,01
22	BJTM	Bank Pembangunan Daerah Jawa Timur Tbk	2021	3,31	0,30	0,02
			2022	3,40	0,85	0,02
			2023	3,12	0,85	0,02
			2024	2,81	0,50	0,02
23	BTPS	Bank BTPN Syariah Tbk.	2021	3,88	0,95	0,11
			2022	4,19	0,95	0,11
			2023	3,05	0,90	0,06
			2024	2,94	0,95	0,06