# Intellectual Capital as Sustainable Competitive Advantage in Business Performance

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Abstract: The objective was to do an analysis of how intellectual capital could have a competitive advantage for sustainability business performance in the Riau islands. This research utilized human capital, organizational capital, and customer capital to create intellectual capital. There were 179 respondents to answered the questionnaire. The study employed the Partial Least Squares (PLS) method for data analysis. Human, organizational, and relational capital are the keys to companies achieving competitive advantage and sustainable business performance. The research findings have resulted in the organization prioritizing human capital, which has led to a concerted effort to enhance and cultivate employees' knowledge and abilities. It affected the company's productivity and influenced business performance. Imitating human knowledge and skill is a difficult task and the most important resource for the company. Meanwhile, organizational capital and customer capital do not affect the business performance of Riau Island. The COVID-19 pandemic had a significant impact on several countries, including Indonesia, with a special focus on Riau Island. Most companies in Riau Island experienced changes in work systems and structures in their business activities. Intellectual capital is a critical and valuable asset for company innovation and human growth through the exchange of information. Investment in intellectual capital produces a greater competitive advantage, which influences the success of an organization. Increased company performance has an influence on business and economic sustainability, particularly for the inhabitants of the Riau archipelago.

## 1 INTRODUCTION

It is necessary to balance industrial growth in the Riau Islands with the contribution of business actors in promoting and enhancing business performance. The involvement of commercial entities is manifested in their investments in the Riau Islands. Riau Island was ranked in the top ten in Indonesia for foreign and domestic investment in 2019 and 2020. Riau Islands are one of the maritime areas that have economic potential. This can be seen from the increase in domestic investment and foreign investment in Riau Island. To observe the presence of Riau Island, simply refer to the table provided below.

Table 1: Foreign and Domestic Investments.

| Description | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Foreign Investment (million USS) | 1.031,5 | 831,25 | 1.363,40 | 1.649,40 | 1.044,70 |
| Domestic Investment (billion Rp) | 1.398,0 | 4.385,98 | 5.656,40 | 14.249 | 9.768,70 |

source: bps.go.id

The impact of investments in Riau Island has led to the establishment and growth of many companies to advance economic development. The company's goal for its business activities is to maximize profit and further expand the business. Companies must have dynamic capabilities to achieve these goals. Dynamic capabilities involve skills, business

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processes, work procedures, organizational structure, government or company rules, decision making, and work discipline. This ability was a difficult thing to do for developing and using in a competitive business (Ginesti et al., 2012).

Business performance discusses the results of organizational activities or investments over a certain period, which includes financial and non-financial/operational performance. Investment caused many companies to be established and grow, advancing development and the economy. A company's growth will result in competition between companies "highly and tightly". High competition causes every company to have a competitive advantage for having unique products and services. Making the appropriate decisions in business will determine the enterprise's viability and continuity. The achievement of business success is contingent upon the ability to detect, capture, and manage threats and change reality. Managers must be able to make and decide the right decisions in their business. Resource management systems can provide information needed by companies to make decisions. Managers could sense and help the company become more established in the future by restructuring.

The dynamic capability was related to more than managerial decision-making. The dynamic capability optimizes business by using emotions to achieve ultimate goals. This goal sets for winning the competition in business. The dynamic capability approach was part of the theory of the Firm. This approach explains that the company can compete by managing and empowering its resources. These resources must be had the uniqueness. The acquisition of unique resources by companies can be achieved through learning, research, and development.

The industrial revolution of 4.0 has changed the business model in the industrial sector. This change could improve business performance by up to 20-50 percent higher than before. The 4.0 industry practice was thought to efficiently boost productivity and quality. It was impacted to produce innovative products and services and competitive advantage.

(Asiaei et al., 2018a) stated that companies with high intellectual capital use a diagnostic and interactive approach in performance measurement that ensures a balanced assessment. The study that was undertaken by (Asiaei et al., 2018a), Relational/customer capital only affected mission-based performance in a cooperative company. The economic and social performance of cooperative enterprises is influenced by human capital. Structural or organizational capital did not affect social performance, but it correlated with human and relational capital, as well as customer capital. Research outcomes (Ginesti et al., 2018) concluded the concept of intellectual capital has been identified as having a significant effect on measures of most monetary ratios. Companies that maintain their reputation tend to use intellectual capital efficiently. The research results of (Dzenopoljac et al., 2017) provide ambiguous outcome information. Organizational and physical capital exert a substantial influence on revenue and profitability. Human resources capital influenced market efficiency and performance.

The Result of (Scafarto et al., 2016) suggested that Human resources and Innovation capital must be viewed as interdependent resources within the intellectual capital component. These interdependent resources create strategies for coordinating investments. It produced different resources that would affect company performance. The research results (Mention & Bontis, 2013) concluded that human resources capital had contributed to business performance in Belgium's banking sector. Organizational and customer capital did not relate to business performance. Research conducted by Komnenic and Pokraj<unk>i<unk> (2012) stated that the positive relationship seen was solely attributed to human capital and correlated with performance measures. According to the findings of (Mehralian et al., 2012), presence of complex connection between intellectual resources and monetary performance.

The study of (Campos et al., 2022a) showed that intellectual resources (human, organizational and customer capital) has a bearing on financial outcomes. Furthermore, this only occurs secondarily, via a chain that acts as a mediator, which may be represented using the variables dynamic capabilities, network competence, technical skills, absorptive capacities, and innovative performance. Research by Suraj and Bontis in 2012 showed that hypotheses regarding human, structural, and customer capital were investigated to examine their effects on business performance. According to findings, Nigerian telecoms businesses predominantly majority prioritized the utilization of customer investment capital, as demonstrated through the utilization of market research and the implementation of customer relationship management strategies, companies may enhance their overall performance. Based on previous studies, we can observe inconsistencies in research results. This research was conducted because of inconsistent results.

## 2 THEORETICAL FRAMEWORK

The Concept of the Firm was one of “Neo-Classical” theories to answer the company and all its problems. This theory emerged because of the weakness of the Neo-Classical theory. A firm's theory is a collection of economic and organizational models that covers fundamental issues of economics and strategic management. Fundamental questions about economic activities and management strategies, such as “Why did the company exist?; What is the definition of a demarcation line separating company and commerce?; How might one of the proprietors run the company? if proprietor and management disagree on settling the company's problem?; how to manage the company to achieve efficiency, and how could the company continue to grow and develop?; how could the company develop and maintain its competitive advantage? (Teece, 2016).

The theory that emerged from companies that take advantage of complementarity is the dynamic capability framework. Dynamic capability refers to the organizational capacity for integrating, constructing, and adapting both internal and external resources and assets in a flexible manner, hence enabling the organization to respond and evolve over time. The Dynamic Competency Framework is still not fully developed as a business theory. The dynamic competency approach is crucial for transaction costs, business resources, and knowledge. Dynamic capability not only explained why the company existed but also explained sustainable growth and competitive advantage.

The dynamic capability approach provided a comprehensive overview of the Firm's theory, with a focus on how to overcome the weaknesses of the Agency's Theory. This approach emphasizes the roles and responsibilities of managers in maintaining and developing an organization’s ability and sustaining improvement (Teece, 2016). The risk of self-serving managers' behavior was addressed, but the concern was with building capabilities and managing certain assets in the company. Proper incentive systems and oversight by the board of directors were the thing to do. Managers and experts gave incentive designs as a form of appreciation for the innovation and contribution of workers' creativity (Teece, 2011); (Bucak et al., 2023).

Dynamic capability's framework identifies opportunities and threats, and secures the combination of tangible and intangible assets. The identification would allow it to meet customer needs and develop business models that would create a competitive advantage. The competitive advantage created must be inimitable because it was a major factor in maintaining business growth and survival. Making a competitive advantage involves people and their capabilities(Teece, 2014).

Dynamic capability's approach emphasizes asset availability, asset development, asset combinations, and asset redistribution. Intangible or non-current assets could not be traded. An example of this asset was a company that used certain types of knowledge that could not be patented to potential users. Users used those assets, i.e., intangible assets, without obtaining a license. Because assets were not transferable, business transactions could not occur. This could encourage companies to choose a business model that uses technology more than a knowledge-based business model. Business individuals must possess assets to conduct business transactions and sell products by leveraging knowledge to achieve profitability.

The advantage of a company's dynamic capability determines how quickly a company's specific resources can be adapted to the company's needs, that permanently change every time. Combining specific resources with the right strategy can create a robust dynamic capability in the form of competitive advantage. Companies with a competitive advantage can compete with other companies because their products and services create the interests and criteria of customers. The competitive advantage created will lead to the development of chances of an organization's survival (Shih-Yi Chien & Tsai, 2012).

Resource-based theory shows that advantage in competition and the company's performance resulted from the company's specific resources and capabilities that competitors could not imitate easily Dynamic capability and resources could be essential factors in creating a sustainable competitive advantage. The performance of a company would be better if it had unique traits, such as valuable resources. Valuable resources were not easily imitated and replaced, increasing company activities' efficiency and effectiveness(Theriou, 2002); (Campos et al., 2022). Resource-based theory attempts to comprehend the reason why companies expand and diversify. This theory grew based on research conducted by Penrose in 1959. Penrose acknowledged that internal managerial resources were both the driver and the limit of expansion that could be carried out by a single company (Lowe & Teece, 2001; Hamdoun, 2020).

The resource-based theory emphasised essential resources that maintained the company's market value, and also, resources were difficult to replicate for other companies. These resources included managerial capabilities, customer relations, brand reputation, and specific knowledge of a particular manufacturing process. Resources differed from competence or ability, which is the ability to mobilize and combine resources by determining the company's competence in certain product areas. Companies collected resources for doing business, which could be in different product lines or markets. Some of these resources would maintain excess capacity over the period because units' products in one area were inconsistent across the areas (Lowe & Teece, 2001; Hamdoun, 2020).

The resource-based theory identifies and exploits strategic capabilities such as resources and competencies. This capability was an essential source of competitive advantage in determining a company's success. Intellectual capital was a competitive advantage contained in resource-based theory. Intellectual capital includes employing skilled workers, owning trademarks, technological know-how, machines, trade contracts, efficient procedures, capital, Etc. Crystals and Bontis (2007) and Wernerfelt (1984) explained that intellectual capital had dimensions like human resources, and structural or organizational capital has been recognized as an essential part of strategic resources(Kengatharan, 2019).

Successful conventional strategic choices and managerial techniques needed to be improved to reap competitive advantages in a dynamic environment showing globalization, technological advancements, and product life cycle instability. Knowledge-based theory holds that intellectual capital has significantly contributed to the creation of sustainable competitive advantages with lower costs, high innovation and creativity, efficiency and customer benefits as well. as the overall performance of the organization (Kengatharan, 2019).

The global marketplace was constantly changing to knowledge and technological innovation and looking for methods or techniques to enhance competitive advantage. Intellectual capital was identical to intangible assets and knowledge capital (Maditinos et al., 2010); (Campos et al., 2022b) Intellectual resources hold significant importance thing of an enterprise's investment. Intellectual capital that has created long-term monetary, pragmatic, social, and financial performance values has increased in the corporate market.

Intellectual capital is a potential benefit that cannot be taken by others or imitated by competitors. The company's dynamic capability through learning, research, and development of the company's resources could be measured by intellectual capital performance. It could also be related to the management role. The company's management continued to motivate workers so that workers continued to enhance the value of the intellectual capital company. Companies continuously identify certain intellectual capital items and categorize this intellectual capital. The company's investment in human resources, organizational, and customer capital was a result of that. The investment's purpose was to increase the firm’s value and competitiveness. If the company has invested in intellectual capital, the company will achieve a higher competitive advantage than competing companies. Suppose a company invested in intellectual capital and used it as a competitive advantage that was difficult for competitors to imitate. In that case, the company could improve its business performance and survival. Kaplan & Norton (1996) assumed the business performance would experience a positive influence by measuring critical organizational aspects of prosperity including intellectual capital (Asiaei et al., 2018b).

Human resources investment is carried out on an ongoing and continuous basis to increase the capability to maintain knowledge as a sustainable advantage. However, the investment in human resources is relatively inexpensive over a certain period. The costs incurred are a burden to the company. One of these costs includes replacement costs incurred every time a worker quits or leaves the company (Olander et al., 2015).

Human resources imply employees' skills to apply their accumulated knowledge to business problems (Örnek & Ayas, 2015). Human resources have been lot of discussed as a critical aspect of sustainable advantage. Human resources are essential in explaining performance differences in each company. Human resources are generally referred to as human capital. Human capital includes workers' knowledge, skills, and abilities to provide an economic company’s value (Scafarto & Dimitropoulos, 2018). Knowledge-based resources provide insight into the essential elements of knowledge to establish and maintain a company's sustained competitive edge in the long run. The involvement of intellectual resources is a company resource in innovating and developing human capital through sharing knowledge, creating competitive advantage (Sardo & Serrasqueiro, 2017).

Most researchers consider human capital to be an important construct of the knowledge capital component. Research results by (23);(24);(25), and (Nimtrakoon, 2015), have consistently documented that human resources on monetary outcomes.

Meanwhile, the results of research carried out by (Firer & Mitchell Williams, 2003) found a negative effect of human resources on the stock market as a measure of a firm's financial performance and overall productivity as a non-financial performance measurement (Scafarto & Dimitropoulos, 2018).
H1: The impact of human capital on corporate performance

Organizational capital was a tangible resource that reflected the organizational and structural design of the unique processes and businesses that created sustainable competitive advantage. Structural or Organizational capital, which includes capabilities and knowledge, blends human skills and physical capital. Venieris et al. argued that conditions of declining sales and companies have higher capital took actions by using more unwanted resources.

According to Bontis (1998), intellectual capital can only reach its potential if the organization has the right systems and processes in place. Organizations possessing robust structural capital would cultivate a culture that encourages individuals to engage in novel endeavors, such as learning and failing. The ability to assess intellectual capital at the organizational analysis level was facilitated by the existence of organizational capital, which played a crucial role in this undertaking. Structural or Organizational capital was analogous to a corporate structure. Organizational capital ensures that business activity achieves and develops its goals (Örnek & Ayas, 2015). Organizational capital had to stay and be left in the organization when personnel left the organization. Organizational capital is derived from the organization's processes and values that reflect the company's internal and external and its value for innovation and growth for the future.

Resource-based theory explains that the ownership of strategic resources gives an organization a competitive advantage over its competitors. Valuable resources helped companies to create unique strategies, take advantage of opportunities, and mitigate threats. Resources could not be substituted when the possibility of resources provided alternative ways of obtaining the benefits. Scarce resources provided a strategic advantage for the company. Competitors found that resources were very hard to duplicate and imitate. Copyrights, patents, and trademarks are among the legal protections that pertain to these resources.

If the company tried to compile organizational knowledge, it would develop structural capital further. If structural capital grew further, it would gain a competitive advantage. This competitive advantage turned into business performance, and the company had a higher value in business performance (Bontis et al., 2000); (Ibarra Cisneros & Hernandez-Perlines, 2018).

Research findings (Komnenic & Pokrajčić, 2012) showed the relationship between capital structure and Return on Equity. Companies had a high value of organizational capital for development because the investment saw an enhancement in intangible resources. The research of (Sharabati et al., 2010) showed there was sufficient and supportive evidence in Jordanian pharmaceutical companies that the management of intellectual capital such as human, structural/organizational, and relational/customer resource capital effectively affects enterprise performance (Komnenic & Pokrajčić, 2012) showed that only structural capital positively influenced Return on Equity (ROE) for measuring financial performance (Mention & Bontis, 2013) showed that structural/organizational and customer capital were adversely correlated with business performance.
H2: The impact of organizational capital on corporate performance is evident.

Miller (1999) concluded that organizations could be compared closely by creating relational or customer capital indicators. Duffy (2000), the measurement of relationship or customer capital as the role customers play in an organization's current and future revenue. It emphasized the need for a new economic environment and the transition from a customer-centric to a product-centric economy. (Hosseini & Owlia, 2016)

The element of intellectual capital that is most widely recognized is customer resource capital. Relationship capital or customer capital can be easily and quickly measured with financial metrics. However, this factor is considered to be the worst element of intellectual capital. Effective customer or relationship capital management is intricately to a precise and discerning assessment of knowledge, customer interaction, and the conveyed value (Örnek & Ayas, 2015).

Every business activity carried out by the company has customer capital or a relationship with the customers. The concept in question functions as a conduit connecting human resources and organizational capital. Relational or Customer capital arose because customers conducted business transactions with the company. Relational capital is based on knowledge hidden in the external relationships of a firm. (Relationships between customers, suppliers, government, or related industries) (Örnek and Ayas, 2015). The primary topic of relational capital is knowledge about channels of marketing and customer relationships (Bontis, 1998).

Documented studies and evidence empirical have confirmed the significance of intellectual property for customer/relational capital in establishing a sustainable competitive edge, enhancing overall performance, and maximizing investment return (RO() more as a measure of financial performance (Hosseini & Owlia, 2016). It was the concept of Resource-based theory. Resource's theory explains how necessary specific resources. Resources maintained the company's market value, and other resources were hard to imitate for other companies. These resources included managerial capabilities, customer relations, brand reputation, and knowledge of specific manufacturing processes (Lowe & Teece, 2001).

Research (Hosseini & Owlia, 2016) tried to find indicators for relational or structural capital. They understood how to measure and manage relational or customer capital. Companies identified and measured relational or customer capital indicators that pose a much lower threat from competitors who steal power in their relationships with stakeholders.(Thi Mai Anh et al., 2019) Results demonstrated relational capital can enhance the process of information dissemination, and benefits/risks as companies work together to innovate. (Mubarik et al., 2016) showed that the quality of relational or customer capital was essential for client loyalty in Pakistan's pharmaceutical sector. Customer satisfaction turned out to have the most significant impact on the loyalty of their attitudes and behavior. Research by (Asiaei et al., 2018b) showed that human and relational or customer capital contributed to explaining the company's performance using mission-based performance.

The performance of individual tasks exhibited a favorable correlation with annual training, value added per employee, and the quality of customer relationships within the domain of human resources and relational capital.

H3: The impact of customer capital on corporate performance

# 3 RESEARCH METHODOLOGY

## 3.1 Population

Constituents of the population were the symptoms or units researchers will study (Priyono, 2016). All items in any question field constitute the population (C. R. Kothari, 2004). The population was a whole group of entities that could be people, events, or objects with specific characteristics related to the research problem. This research population was all companies located on the Riau Islands.

## 3.2 Sample

The sample was chosen from the population under study in order to estimate or predict the degree of dissemination of anonymous information, situations, or results about the larger group. The sample was a subgroup of the research population that had an interesting to be studied (Kumar, 2011). The sample of this study is big and middle-companies located in the Riau Islands. There are 179 companies spread across the Riau Islands. Respondents in this study are Chief Financial Officers. The Chief Financial Officer is one of the middle managers tasked with determining the efficacy of the organization.

Table 2: Data Collection.

| No | Description | Total |
|---|---|---|
| 1. | Questionnaire Accepted | 179 |
| 2 | Questionnaire not returned | (34) |
| 3 | The questionnaire can be processed | 145 |

## 3.3 Variable Measurement

Two variables were used in this study. Business performance is the endogen variable and intellectual capital is the exogen variable. Business performance was measured by using financial and non-financial performance indicators. Intellectual capital was measured using human, organizational, and customer capital. The process of data collecting is typically facilitated through the use of questionnaires. Measurement of the variables of this study using a Likert scale with five scales. The Partial Least Square (PLS) technique was employed for data analysis.

Partial Least Squares is an equation model for structural equation modeling (SEM) based on components or variations (Erlina et al., 2018) and (Astrachan et al., 2014). Partial Least Squares analysis typically includes two constituting submodels: measurement models and structural models (Ghozali & Latan, 2015).

A measurement model was utilized for testing the validity construct and reliability instrument. The extracted mean-variance (AVE) was used to test the validity of the structure with a value greater than 0.6. Utilizing Cronbach's alpha, one can assess the dependability of the device with a value greater than 0.7. The structural model is evaluated using $R^2$ for the dependent structure, the path coefficient value, or the t-value for each path to check the significance level between the structures within the framework of the structural paradigm. R square is used to measure the changes variability from exogenous to endogenous factors. The higher the $R^2$ value, the better the prediction model of the proposed research model.

# 4 ANALYSIS

## 4.1 Questionnaire

The respondents of this study described all respondents from the selected sample. One hundred seventy-nine respondents should answer all the questionnaires. However, only 145 persons responded to the questionnaire, and 34 persons still needed to respond or answer the questionnaire sent.

## 4.2 Test Results of Data Instruments

The table below shows that the value of all variables is more significant than 0.50 because it is feared. It can be decided that all variables meet the criteria of validity's discriminant.

Table 3: Discriminant Validity.

| Variables | Average Variance Extracted (AVE) | Criteria |
|---|---|---|
| Business Performance | 0.616 | Valid |
| Human Capital | 0.537 | Valid |
| Customer Capital | 0.526 | Valid |
| Organizational Capital | 0.6 | Valid |

The average value of the extraction variance (AVE) for each character, the value of the appropriate model, must be greater than 0.5. It showed that a good model.

Table 4: Cronbach's Alpha.

| Variables | Composite Reliability | Criteria |
|---|---|---|
| Business Performance | 0.926 | Reliable |
| Human Capital | 0.952 | Reliable |
| Customer Capital | 0.947 | Reliable |
| Organizational Capital | 0.956 | Reliable |

In addition to the construct validity test, the construct dependency test was also carried out, and analyzed by Cronbach. Assemble was reliable if Cronbach occurred above 0.70 (Ghozali & Latan, 2015). The following was Cronbach's value of each variable in this study.

The table above explains that each variable had a Cronbach alpha value above 0.70. The construct is very reliable.

Structural model evaluated the independent variables using R-Square for and t-test and significant structural path parameter coefficients. Table 5 below shows the R-square value as follows**:**

Table 5: R- Square Coeficient.

| Variable | R-square | Adjusted R-square | Description |
|---|---|---|---|
| Business Performance | 0.464 | 0.453 | 46.4% of Business Performance variables can be explained by intellectual capital variables while 53.6% are influenced by other variables. |

Next, the coefficient of the path estimation study method is carried out in this research. The research theory test is related to this analysis. In general, the research hypothesis is approved if the absolute superiority of the t-table > 1.96, the proposed research hypothesis following whether the coefficient is positive or negative in sign. The t-test is designed to assess the extent to which the independent factors have a statistically significant impact on the dependent variable. The results of the assumed model are in Table 6. The following will be explained below: Next, the coefficient of the path estimation study method is carried out in this research. The research theory test is related to this analysis. In general, the research hypothesis is approved if the absolute superiority of the t-table > 1.96, the proposed research hypothesis following whether the coefficient is positive or negative in sign. The t-test is designed to assess the extent to which the independent factors have a statistically significant impact on the dependent variable. The results of the assumed model are in Table 6. The following will be explained below:

Table 6: Research Hypothesis.

| Variables | Original sample (O) | Sample mean (M) | Standard Deviation (STDEV) | T- Statistics (\|O/STDEV\|) | P-Values |
|---|---|---|---|---|---|
| Human Capital -> Business Performance | 0.676 | 0.660 | 0.138 | 4.736 | 0,000 |
| Customer Capital -> Business Performance | 0.051 | 0.071 | 0.129 | 0.391 | 0.696 |
| Organizational Capital -> Business Performance | -0.043 | -0.034 | 0.122 | 0.356 | 0.722 |

The influence of variable relationships, as in Table 6, can be explained as follows:

1. Impact of human capital on business performance

The influence of human capital on business performance is substantial, as evidenced by a T-statistic value of 4.736, which exceeds the critical value of 1.96, and a p-value of 0.000, which is less than the significance level of 0.05. The original sample estimate exhibits a positive value of 0.676, indicating a positive direction of effect from the independent variable of human capital on the dependent variable of business performance is positive.

2. The impact of Organizational capital on Business Performance

The impact of organizational capital on company performance is found to be statistically unimportant, as indicated by a T-statistic value of 0.356, which is less than the critical value of 1.96, and a p-value of 0.722, which is greater than the significance level of 0.05. The initial estimated value is -0.043, indicating a negative relationship between Organizational capital and business performance.

3. Effect of Customer capital on business performance

Based on the T-statistic value of $0.391 < 1.96$ and the p-value of $0.696 > 0.05$, it can be concluded that there is no significant impact of customer capital on business performance. Based on the positive initial sample estimate value of 0.051, it can be concluded that the customer capital variable exerts a positive influence on business performance.

# 5 DISCUSSION

The findings of this study indicate that there exists a positive and statistically significant relationship between human capital and company performance indicators. This outcome is consistent with the results of research undertaken by (Chen et al., 2005); (Clarke et al., 2011); (Maditinos et al., 2011), and (Nimtrakoon, 2015) consistently report financial performance that is enhanced by human capital. The concept of a knowledge-based resource view recognizes the importance of intellectual resource investment because long-term competitive advantage and value generation of an organization are impacted by its knowledge assets. The acquisition of intellectual capital is vital for corporate innovation and human development through knowledge sharing (Sardo & Serrasqueiro, 2017). In today's knowledge business era, continuous investment in human resources is required to augment capabilities and sustain a competitive edge, particularly inside knowledge-intensive environments (Chatterjee, 2017). Nevertheless, the investment is a considerable expense obliged to the company. This includes replacement expenses accrued each time the worker leaves the Company (Olander et al., 2015). This is evident from the findings of this study: learning and education indicators that an organization demonstrates a significant commitment to enhancing and cultivating the knowledge and abilities of its personnel via dedicated time and effort. This can be seen in its effect on company productivity.

Meanwhile, Organizational capital has no effect and is not significant on business performance. This finding aligns with previous research (Asiaei et al., 2018b), showing the impact of relational capital appears to be limited to mission-based performance, while human capital has an influence on both aspects of business performance. The performance of social cooperatives is not influenced by organizational capital. The results of research (Mention & Bontis, 2013) concluded contribution of human capital to company performance within the banking sector is evident. There was no discernible correlation between organizational and customer capital and business performance. Research conducted (7) stated that only human resources positively related to company performance measurement. The findings of the research undertaken for each indication, that the company's recruitment program needs to be more comprehensive to recruit the best candidates. The company might need help determining the appropriate budget for research and development. This may be due to the unfavorable economic conditions in Indonesia due to the COVID-19 outbreak, which has impacted all of the company's business activities.

The impact of customer capital on corporate performance is negligible and lacks significance. This study is consistent with the results of studies carried out by (Mention & Bontis, 2013), concluding that human capital contributed to business performance in the banking sector. Organizational and customer capital was not related to business performance. Research conducted (Komnenic & Pokrajčić, 2012) stated that only human resources positively related to company performance measurement. One indicator of customer capital showed the lowest value of the strategic alliance. It showed that companies only worked on a joint project with a few other organizations. However, companies maintained long-term relationships with suppliers.

# 6 CONCLUSION

The resource-based theory has demonstrated the relationship between competitive advantage and corporate performance resulting from the company's specific resources and capabilities that competitors could not easily imitate. Resources and capabilities could be essential factors of sustainable competitive advantage and superior company performance if they had specific characteristics. Valuable resources, increasing efficiency, and effectiveness could not be easily imitated perfectly and substituted (Campos et al., 2022b).

Intellectual capital was the potential advantage that could not be taken by others or imitated by competitors. The company's dynamic capability through learning, research, and development of the company's resources could be measured by intellectual capital performance. It also must be connected to the role of management. Management should motivate employees to have ways to increase intellectual capital’s value. The company identified intellectual capital items and then categorized and invested in human, organizational, and customer capital. The purpose of investing in intellectual capital was in order to add value to the company. If the company has already invested in intellectual capital (human capital, organizational capital, and customer capital), the company will achieve a higher competitive advantage. If intellectual capital was used in the right direction and the company advanced its elements of intellectual capital, not separately and independently. However, as interrelated topics, intellectual capital could succeed in business performance.

Based on the research results and arguments above, the researchers drew subsequent conclusions about intellectual capital. Human capital has strongly influenced business performance in companies on Riau Island. Meanwhile, organizational and Customer capital have not influenced business performance in companies on Riau Island. The limitations of this study are that researchers only use the dimensions of financial and non-financial performance to measure a company's business performance.

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