The Role of Firm’s Unique Resource in Developing Sustainable Competitive Advantage from Strategy Inimitability and its Effect on Firm Performance of Mining Companies in Indonesia

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Abstract. The positive relationship between unique resources and sustainable competitiveness of the company has been well understood and applies to almost all businesses. However, little is known about the specific effects of the uniqueness of resources and business strategies in this relationship. Using resource-based view (RBV), Porter's five-factor theory, and game theory, as well as imitation theory between companies, this study explains how the influence of company-specific resources and the uniqueness of the company's strategy as a sustainable competitive advantage affect performance. Analysis of data collected from surveys on 101 mining companies in Indonesia shows companies with distinctive resources are able to produce unique business strategies and insofar as they cannot be replicated, companies can enjoy sustainable competitive advantage. This implies that mining companies need to avoid their resources and business strategies to be imitated by their competitors if the company still wants to maintain competitive advantage and performance.

1. Introduction
The mining industry is a competitive industry, especially in resource-rich countries like Indonesia [1-2]. Because competition is an important element in the theory of Resource Based View, we are interested in studying competitive strategies in the mining industry using characteristics of company resources and strategies. This study focuses on one of the characteristics of resources and strategies, namely the aspects of impersonation of the strategy. [3] argue that ignorance is a component of the criteria for superior resources that are the most challenging but very critical to be achieved by the organization. Likewise, the main proponent of the five forces theory which is considered a rival of the RBV theory, Michael Porter, states that sustainable competitive advantage requires the company to be able to put up obstacles that make imitation of its strategy difficult.
A good strategy is to build a defense against competition and gain a position in the industry when the strength of competition is weakest. The aim of the strategy is to help maintain competitive advantage over competitors [4].

This study aims to examine the relationship between company-specific resources and sustainable competitive advantage which is proxied by the lack of strategy and its relationship with company performance, both directly and indirectly through sustainable competitive advantage. The results of this study can provide a valuable picture for mining companies. Mining companies can identify important resources that can be acquired maximally to encourage sustainable competitive advantage. The key questions about how to manage these resources to achieve sustainable competitive advantage can also be answered. Furthermore, for mining companies faced with current production problems, the results of this study can provide a direction to better understand how to create competitive strategies in the mining industry. Most research strategies for sustainable competitive advantage are carried out in non-mining industries and carried out in developed countries [5,6,7]. The study of competitive advantage in mining companies in Indonesia can offer meaningful data for cross-country comparisons. Moreover, data from Indonesia, where the mining industry plays a large role in socio-political life and daily life can provide a picture of competition in the mining world in other countries.

2. Conceptual Background and Hypotheses

Resource-based view (RBV) states that the company's internal characteristics have an effect on company performance [8]. These internal characteristics are resources that are owned or controlled by a company. These resources must have unique characteristics that are not owned by other companies. This uniqueness is summarized in the VRINO concept (Valuable, Rare, Inimitable, Non-Substitutable, and Organizational-embeddedness) [9,10]. If the company is able to manage these unique resources well, the company can enter an imperfectly competitive market environment from highly competitive markets, allowing companies to benefit from their business strategies and experience increased competitive advantage and performance [11]. Therefore, companies must acquire and accumulate these unique resources in order to achieve company performance and sustainable competitive advantage [12].

Specific resources are seen as important to produce the company's strategy for excellence. Resources are used to formulate, choose, and implement strategies which in turn can produce differences in company performance [13]. Strategy is the meeting point between internal and external components of the company. Through the strategy, the company not only considers its resources and capabilities, but also takes into account external factors such as prices, products, the dynamics of competition, supply chains, costs, market structure, entry constraints, etc. [14]. Successful strategies are, therefore, a mixture of the ability to manage resources and external factors.

In order for this advantage to be sustainable, the strategy should also be VRINO. The strategy must be valuable, rare, cannot be replicated, cannot be replaced, and is attached to the company. There is a possibility, of course, that
some strategies can produce the same business performance. However, differences can arise with environmental dynamics. When certain situations occur and benefit one strategy, competitors will try to understand the strategy and imitate it to immediately bring equality back. This in turn highlights the importance of elements of ignorance in the strategy component.

2.1. The Inimitability of Strategy as a Form of Sustainable Competitive Advantage

The Inimitability means that competing companies cannot obtain valuable and rare resources owned by the company [15]. In the context of resources, undetermined resources must contain at least one of three criteria: unique historical conditions, causal ambiguity, and social complexity [15]. Unique historical conditions come from things like love rights and patents. Causal ambiguity is a lack of clarity on the relationship between resources and competitive advantage. Social complexity departs from aspects such as corporate culture and business reputation.

Strategy criteria that cannot be replicated cannot be derived from causal ambiguity because the strategy is clearly a determinant of competitive advantage. Research shows that the inimitability of strategies can come from constraints of mobility formed by strategic groups within the company [16]. Other studies from [17] using instrumental stakeholder theory also found that building relationships with stakeholders ethically produces business strategies that are difficult for competitors to emulate. Both of these findings indicate elements of social complexity play a role in blocking imitation of strategies.

The description above shows that the inimitability of strategy can be an indicator of a company's competitive advantage. In this way, the company's unique resources can have an effect on the imprecision of the strategy which indicates the company's ongoing competitive advantage.

2.2. Specific Company Resources that Encourage Strategy Impotence

Imitation theory between companies shows that the imitation of the first driving strategy by many competitors makes imitation a shared strategy, so that industry norms are consistent with imitation formed [18]. This action leads to the formation of similar strategy clusters where the competitiveness of one company is related to the competitiveness of other companies in the cluster [19]. Companies with an imitation strategy in turn can stand out and be alone from the cluster but are able to produce superior performance compared to the average cluster member.

Simulation shows that in imitation situations, the initial company is only able to achieve excellence temporarily and before the end of the life cycle, the competitiveness of competing companies is more or less the same. Only when the product life cycle ends, the emulated company has greater accumulative competitiveness [20]. Therefore, the more difficult the company strategy is imitated, the longer the company goes through the product life cycle, and the greater accumulative competitiveness that is obtained. Thus, the following hypothesis is tested:
Hypothesis 1: Company-specific resources are positively related to sustainable competitive advantage

2.3. The Inimitability of Company Strategy and Performance

In addition, the inimitability of the strategy may not necessarily drive the company's performance. Competitive companies that do imitation can be fortunate because research costs and strategy design can be cheaper than first movers [19]. As a result, companies that want to be imitated must spend a lot of money to keep it from being copied. In addition, the company originally designed the strategy has spent a lot of budget to design a strategy that cannot be replicated. This can affect company performance. If this cost is too large, the company suffers losses even though the company's strategy cannot be copied by its competing companies. Even so, companies with strategies that lead to high performance are increasingly striking in the environment so that it attracts more competitors to make efforts to imitate [21], so that companies are forced to continue to maintain the invincibility of their strategies. even bigger. As a result, the relationship between strategy impropriety and company performance can even be negative.

Indeed, when competitors are able to imitate the company's strategy, the competitor immediately engages in aggressive creative innovation, so that a better strategy with some of its components is a strategy emulated from the driving company early [22]. This means that strategy alignment not only leads to equality of competitiveness, but can even lead to an increase in competitiveness of competitors, which is equivalent to a decrease in the competitiveness of companies. As a result, companies that have an imitable strategy not only do this to improve performance, but also prevent a decline in performance.

From the perspective of game theory, imitation of strategy in a closed game makes competition even harder [7]. Conversely, when companies do not imitate each other's strategy or strategy one of the high-performance companies cannot be replicated, cooperation will emerge. The losing competitor companies are encouraged to build alliances with focal companies with the intention of contributing to the performance generated by the company's strategy. With the right transaction, this step further enhances the performance of companies whose strategies cannot be imitated. Thus, the second hypothesis to be tested is:

Hypothesis 2: Sustainable competitive advantage is positively related to company performance.

2.4. Specific Company Resources and Company Performance

As indicated by organizational, human, and technological resources which are factors of production, increasing the uniqueness of these resources should lead to an increase in company performance. In general, specific company resources that cannot be replicated can be expected to improve company performance [23,24] without having to be part of a business strategy. These resources increase the efficiency and effectiveness of production while encouraging the creation of new products that become extensions of old products. This suggests that specific
company resources might produce high performance. Therefore, the following hypothesis is proposed:

Hypothesis 3: The relationship between company-specific resources and company performance is only partially mediated by sustainable competitive advantage. In generating productivity without having to go through competitive strategies. Testing on these three indicators

The following conceptual framework is developed based on the various considerations above. This framework shows that company-specific resources as independent variables are used to explain sustainable competitive advantage as a mediator variable and company performance as a dependent variable. Even though it is seen as a common framework in the RBV theory, prioritizing the aspect of inimitability to measure sustainable competitiveness characterizes the theory SCP [4]. This makes the research model a comprehensive model. Furthermore, this model controls the location and products of the company. Locations related to good infrastructure and infrastructure can support the company's performance. Similarly, the product is a picture of a specific industry that is the location of competition between companies. This study studied two types of mining companies, namely coal mining companies and mineral mining companies. One of these domains can have a competitive climate that supports performance more than other domains.

![Conceptual Framework](image-url)

**Figure 1.** Conceptual Framework

3. Methodology
This research was conducted online in Indonesia. The population consists of coal and mineral mining companies that are members of each mining association using data from the EITI [25], APBI [26], and BEI [27]. A total of 320 mining companies were contacted by email and asked to fill out an online questionnaire. The response obtained is very low so that researchers try to encourage companies that are recorded to be more intensively willing. This step produces a sample size of 101 companies. This amount is the minimum amount for research using
structural equation analysis, but is forced to be taken given the low response of targeted companies.

Data were collected using a Likert type scale on research variables. The company's unique resources are measured using three items adapted from Maket & Korir [28], namely organizational resources, human resources, and technological resources. Continuous competitive advantage (mediator variable) is measured using the following parameters: information technology strategies, innovation strategies, market expansion strategies, distribution strategies, service strategies, operational strategies, quality strategies, training strategies, product diversification strategies, and product segmentation strategies. These items are adapted from Akan, Allen, Helms, & Spralls III [29]. Independent variables (company performance) are measured on five parameters: employee satisfaction, customer satisfaction, sustainability of relationships with suppliers, level of shareholder satisfaction, and level of community satisfaction with CSR programs, adapted from Harrison & John [30].

The demographic characteristics of the companies analyzed were only locations and products, because there were not many respondents who filled the size and age of the company. This study found that the majority of the samples were coal mining companies composing 56.4% (n = 57) while mineral companies accounted for 43.6% (n = 44). In terms of location, the analysis indicates that the majority of companies are outside Java (n = 93; 92.1%). In line with this, we make products and locations as research control variables. This is because the product reflects the competitive climate in the industry while the location reflects the availability of infrastructure needed to run business operations. Indonesia is an archipelagic country and infrastructure in Java is far more advanced than other islands in Indonesia. Therefore, locations are distinguished between Javanese locations and locations outside Java. Data analysis was performed using structural equation models (SEM).

To test whether there is a bias in the general method, we use Harman's One Factor Test [31]. The test results show that the first factor explains 47.37% of the variant less than 50% of the variants in the data. Therefore, a large variant of the general method seems invisible.

4. Results
4.1. Measurement model
Testing of psychometric construct properties is carried out by carrying out the Confirmatory Factor Analysis (CFA) process. The CFA results show a good model match with $\chi^2 = 248.72$ df = 132, $\chi^2 / df = 1.88$ (p <.001), comparative fit index (CFI) = 0.902, standard root-mean-square (SRMR) = 0.043, incremental fit index (IFI) = 0.904 and root-mean square error of approximation (RMSEA) = .094. All values of reliability (α) for all three variables are above the threshold of 0.70. Similarly, the composite reliability for firm unique resources is more than 0.70, 0.721; for sustainable competitive advantage of 0.943 and for firm performance of 0.879. Therefore, the model shows good reliability [32].
Table 1. CFA results

| Items                                                                 | Item loading | z-score | Cronbach alpha | CR&AVE |
|----------------------------------------------------------------------|--------------|---------|----------------|--------|
| Specific Company Resources (Maket & Korir, 2017)                     |              |         |                |        |
| FUR1: Our company is unique in its ability to manage a mining business | 0.649        | 0.721   | CR : 0.720     |        |
| FUR2: Employees in our company are unique in their ability to add value to the company | 0.712        | 5.04    | AVE : 0.463    |        |
| FUR3: Technology in our company is unique and our employees master it well | 0.678        | 4.94    |                |        |
| Sustainable Competitive Advantages (Akan et al, 2006)                |              |         |                |        |
| SCA1: Our information technology is superior to other mining companies and they cannot emulate | 0.752        | 0.943   | CR: 0.943      |        |
| SCA2: The innovation we have is superior to other mining companies and their strategies cannot be imitated | 0.729        | 7.55    | AVE: 0.625     |        |
| SCA3: Our market expansion is better than other mining companies and their strategies cannot be imitated | 0.804        | 8.45    |                |        |
| SCA4: Our distribution costs are lower than other mining companies and their strategies cannot be imitated | 0.712        | 7.35    |                |        |
| SCA5: The service we provide to consumers is better than other mining companies and their strategies cannot be imitated | 0.795        | 8.34    |                |        |
| SCA6: Our operations are more efficient than other mining companies and their strategies cannot be imitated | 0.741        | 7.69    |                |        |
| SCA7: The quality of our mining products is more controlled than other mining companies and their strategies cannot be imitated | 0.848        | 8.99    |                |        |
| SCA8: Our company has more effective training techniques from other mining companies and their strategies cannot be imitated | 0.823        | 8.68    |                |        |
| SCA9: Our company has special products that are better than other mining companies and they cannot replicate the | 0.818        | 8.61    |                |        |
strategy of making these products

SCA10: Our company has premium products that are better than other mining companies and their manufacturing strategies cannot be replicated

Company performance (Harrison dan John, 2013)
FP1: Level of employee satisfaction 0.837 0.874 CR :

FP2: Level of customer satisfaction 0.816 0.40 AVE:

FP3: The level of sustainability of relationships with suppliers
FP4: Shareholder satisfaction level 0.715 7.86
FP5: The level of community satisfaction with the company's CSR program 0.805 9.23

(N = 101), all values are significant at p < 0.001

Table 1 shows the complete results of the CFA. All items showed significant loading factors (p <0.001). This shows the existence of convergent validity [33]. However, the AVE value for a unique resource is only 0.463, below the 0.50 threshold. Indeed, AVEs within the range 0.4 - 0.5 are acceptable as long as the composite reliability is still higher than 0.6. Because the CR of a unique resource is more than 0.6, an AVE of 0.463 is still acceptable, and the construct of a unique resource still meets the convergent validity requirement [34].

Table 2 shows the matrix between correlations. Discriminant validity can be obtained if the square root of AVE for the relevant construct is greater than the construct correlation with other constructs. As can be seen in the table, the AVE square root value (located at the diagonal) is always higher than the construct correlation value associated with other constructs. This shows that the model has discriminant validity [34].

### Table 2 Inter-Factor Correlation Matrix

| Construct              | Mean | SD    | 1   | 2   | 3   | 4   | 5   |
|------------------------|------|-------|-----|-----|-----|-----|-----|
| 1. FUR                 | 3.83 | 0.65  | (0.680) |     |     |     |     |
| 2. SCA                 | 3.38 | 0.76  | 0.455 | (0.791) |     |     |     |
| 3. Firm Performance    | 3.72 | 0.59  | 0.490 | 0.636 | (0.77) |     |     |
| 4. Product             | 0.56 | 0.49  | -0.002 | -0.143 | -0.296 | NA  |     |
| 5. Location            | 0.07 | 0.27  | 0.228 | 0.272 | 0.125 | 0.184 | NA  |

(N = 101), square root of AVE shown in parantheses; where SD standar deviation, NA not applicable, AVE average variance extracted; SCA sustainable competitive advantage; FUR firm unique resource

4.2. **Structural model**

The results of SEM analysis provide a fit value of \(\chi^2 = 289.66 \text{ df} = 165, \chi^2 / \text{ df} = 1.76\) (p <.001), comparative fit index (CFI) = 0.897, standard root-mean-square
(SRMR) = 0.047, incremental fit index (IFI) = 0.899 and root-mean square error of approximation (RMSEA) = 0.087. Two model match indicators show values that are less than the threshold, namely CFI and IFI, because both are less than 0.90. To fix this, a parcel of indicators is carried out. Parsellations are permitted if the parselations are performed on unidimensional variables, the focus of the research is on relationships between constructs, and when the purpose of the study is to model the effect of a latent variable on the level of free generality [35]. All variables in this study are unidimensional and the hypothesis is directed at inter-constructual relationships and there is no limit to generality. Therefore, parselations can be done.

The variable with the most indicators, namely SCA, has 10 indicators. The number of indicators of SCA was reduced to only five by randomly pairing the ten indicators into five new parcels (items), each of which was the average value of the two constituent items. Parsing results provide parameters that are entirely acceptable. The fit value is $\chi^2 = 132.54$ df = 84, $\chi^2 / df = 1.57$ (p <.005), comparative fit index (CFI) = 0.940, standard root-mean-square (SRMR) = 0.033, incremental fit index (IFI) = 0.942 and root-mean square error of approximation (RMSEA) = 0.076.

The model can be seen in Figure 2. The model shows that company-specific resources have a significant positive effect on the company's competitive advantage ($\beta = 0.572$, p <0.001) supporting Hypothesis 1. Meanwhile, the company's competitive advantage has a significant effect on company performance ($\beta = 0.460$, p <0.001) supports Hypothesis 2. Typical company resources have a significant effect on company performance ($\beta = 0.383$, p <0.01). Infrastructure variables have no effect on company performance but the type of product has a significant effect. Coal products have a significant relationship with company performance ($\beta = 0.234$, p <0.01).

**Table 3. SEM Results**

| Hypothesis                        | Estimates | Z value | Accepted/rejected |
|-----------------------------------|-----------|---------|-------------------|
| FUR $\rightarrow$ SCA            | 0.572***  | 4.08    | Accepted          |
| SCA $\rightarrow$ Firm Performance| 0.460***  | 3.99    | Accepted          |
| FUR $\rightarrow$ Firm Performance| 0.383**   | 2.73    | Accepted          |
| Infrastructure $\rightarrow$ Firm Performance | -0.074   | -0.87   | Rejected          |
| Coal $\rightarrow$ Firm Performance | 0.234**  | 2.92    | Accepted          |

(N = 101), *** p<0.001; ** p<0.01; where SCA sustainable competitive advantage; FUR firm unique resources
To find out whether mediation is partial or full, we carry out structural analysis again by removing the relationship from the company's unique resource variable to the company's performance. If the model shows a better match, then this model is chosen and indicates that the mediation that occurs is full mediation [36]. The new model has a parameter $\chi^2 = 141.92$ df $= 85$, $\chi^2 / df = 1.67$ (p <.001), comparative fit index (CFI) = 0.930, standard root-mean-square (SRMR) = 0.042, incremental fit index (IFI) = 0.931 and root-mean square error of approximation (RMSEA) = .082. All parameters, except IFI, show a value that is worse than the partial mediation model parameter. Therefore, it can be concluded that typical company resources are partially mediated by sustainable competitive advantage, supporting Hypothesis 3.

5. Discussion
Companies with distinctive resources are able to produce unique business strategies and insofar as they cannot be replicated, companies can enjoy sustainable competitive advantage. On the other hand, companies that have easy-to-replicate strategies are not able to maintain competitive advantage and hence, can experience a decline in performance. This also applies to the mining industry, where companies that already have their own consumer base experience problems because consumers can make the transition to superior supplier companies. Therefore, based on the purpose of the study, the company's unique resources have an influence on sustainable competitive advantage. Meanwhile, the company's unique resources also have a direct relationship with the company's performance and also indirectly through sustainable competitive advantage.

These results can be justified by the RBV theory as well as the five-factor theory of Porter in the interface between companies and the business environment, and by research on sustainable competitive advantage in the mining industry [37]. Mining companies that have distinctive and difficult resources to replicate are aware of the importance of these resources to produce distinctive strategies that cannot be replicated by their competitors. In this case, research shows that a strategy that cannot be imitated becomes a source for competitive advantage and company performance.
Furthermore, the results of this study indicate the fact that typical company resources can directly lead to company performance. This happens because the company manages these resources to get performance. If not, the direct relationship between company-specific resources and company performance is certainly not significant and this relationship is fully mediated by sustainable competitive advantage.

Another aspect that can contribute to the theory of RBV and Porter's five factors from this study is that certain mining industries have the ability to contribute better than other industries in improving performance. Specifically, the coal industry has a tighter competition climate than the mineral industry. This seems to be related to the coal market climate which is closely related to energy which is only dominated by a few buyers. It is well known that coal mining in Indonesia has very intense competition intensity, including competition between the government and the private sector [1]. The tight competition is shown by various unhealthy business behaviors observed by Garnaut [2]. This is due in part to the nature of the coal industry to produce homogeneous products, in contrast to the highly heterogeneous mineral industry and easy diversification. In such situations, coal companies that have unique resources and strategies that cannot be replicated will produce far superior performance compared to its competitors. Meanwhile, infrastructure is not significant because mining companies are able to make their own infrastructure so that it does not rely on the infrastructure provided by the government.

Another point of view that can be reflected from the results of this study is that inimitability is a characteristic of resources and strategies that can be superior in research based on RBV theory and strategic management. So far, the inimitability aspect of the strategy is a less explored aspect by the RBV which only focuses on the inability of resources. This research shows that a superior strategy that cannot be replicated is the output of a resource that cannot be replicated.

Finally, the main contribution of this research to research in the mining industry is that mining companies have the ability to develop competitiveness using non-product resources such as human resources, organizations and technology. These resources have a high value for the mining business, including coal and mineral mines.

6. Conclusion
The company's internal characteristics are able to have a positive effect on sustainable competitive advantage and company performance. First, the company's unique resources make the company have strong capital to be able to carry out unique strategies. Second, these strategies are then compiled by taking into account the dynamics of the business operational environment. Third, the resulting strategies are able to reach aspects that cannot be touched by competitors. Fourth, competitors are unable to imitate the strategies of the company so that the company continues to excel in a sustainable manner. Finally, the company safely gets quality improvements in various aspects that show superior performance.
After understanding how performance can emerge from sustainable competitive advantage through strategies and resources that competitors cannot emulate, industry characteristics also deserve attention. Based on the results of the analysis, the coal business environment has more advantages than the mineral business environment. This indicates that certain industries have greater capacity to improve performance compared to other industries.

The findings above provide a number of practical recommendations for the mining industry. First, mining companies can expand their distinctive resource base by focusing on managerial resources, human resources, and technological resources. Furthermore, mining companies can formulate strategies by taking into account the effectiveness and invisibility of the strategy by competitors. Finally, mining companies can explore new products and markets that are still quiet in order to achieve more performance than what has been obtained in their original environment.

Limitations and follow-up research from this study can be summarized in three points. First, this research only weighs coal and mineral mining companies, so the findings can be different for other mining companies. Further research needs to examine the model proposed by other mining companies, such as petroleum and natural gas or more specific minerals such as nickel or gold. Second, longitudinal research is better research to be done in the future to ensure that sustainable competitive advantage appears before performance or other sequences. This approach will ensure that the model used in this study does have a sequence of causality as proposed. Finally, further research needs to use far more samples than current research so as to increase the validity of the research model.

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