Antecedents of Sustainable Competitive Advantages: A Case Study of Palm Oil Industries in Indonesia

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Abstract

Indonesian oil palm plantation industry has chance to increase a sustainable competitive advantage. The creation of a sustainable competitive advantage is determined by the ability of the palm oil industry to utilize limited resources and capabilities. The purpose of this study was to analyze the determinants of the creation of sustainable competitive advantage (SCA) in the palm oil industry in Riau, Indonesia. The model framework uses organizational-level SCA dimensions. Four dimensions are used to measure SCA in the palm oil industry in Riau, namely value, scarce resource, inability to replicate, irreplaceable. Questionnaires were distributed to oil palm industry players in Riau with 81 respondents. The analysis technique uses Structural Equation Model with Partial Least Square (SEM-PLS). The results showed that the SCA in the palm oil industry in Riau was at a moderate level. Although the competitive advantage of being sustainable in the palm oil industry in Riau is in the medium category, test results on SCA dimensions found that each latent variable forms a significant SCA framework with a reflective constructive relationship model. The three dominant and recommended dimensions that shape the construction of SCA in the palm oil industry are value, scarce resource, and irreplaceable.

Keywords: Sustainable Competitive Advantage, Rare Resources, Non-Substitutable

JEL Classification Code: L16, M11, P11

1. Introduction

Today, all companies are faced with the digital economic era. Chaiprasit & Swierczek (2011), Sambamurthy (2003) stated that every company in the digital economy era faces different obstacles to achieving a Sustainable Competitive Advantage (SCA) because the business environment is currently in globalization, intangibility, and interconnectivity. Teece (2012) stated that firms can maintain and extend competitive advantage by layering dynamic capabilities on top of ordinary capabilities. The concept of opportunity identification in international entrepreneurship has been generally focused on the sources of opportunities entrepreneurs’ approach to opportunity exploitation (Alvarez & Barney, 2007)

In less-developed countries, most economic activities are based on natural extraction, where energy only is used for several basic needs such as cooking or heating (Nguyen & Do, 2020). However, it is not valid in developing and developed countries where production, transportation, or household activities depends on machinery. All machinery requires a kind of energy to operate, which leads to high demand for essential energies, such as electricity, gas, oil, coal, solar power. Energy is a vital ingredient to economic growth in these countries. Even energy production is a key determinant of economic growth (Long, 2020). There is a positive and statistically significant relationship between energy consumption and economic growth over the long-term such that energy consumption contributes more to economic growth.
growth. Thus, the efficient use of energy is as important as energy consumption, which is regarded as an important indicator of economic development. USD happened to be the main currency for the pricing of crude oil in the international markets (Alam, 2020).

Recommendations from Teece (2012) relate to uncertain business environment conditions and dynamic business competition, then the traditional competitive advantage of cost leadership, market differentiation, and niche orientation (Porter, 1996), which are increasingly less relevant because they can be easily imitated by competitors. Barney (1991), Prahalad & Hamel (1990) considered that company capabilities and resources that are unique and difficult to imitate by competitors have become key factors in winning the sustainable business competition in the digital economy era (Febrian, 2018).

The palm oil industry is one of the industries that is part of the digital economy era (Obado, 2008). Palm oil is one of the most consumed and produced oils in the world. This cheaper, easier to produce, and very stable oil is used for a variety of foods, cosmetics, hygiene products, and can also be used as a source of biofuel or biodiesel. Palm oil is the most important industry of Indonesia contributing between 1.5–2.5 percent of the nation’s gross domestic product (GDP) (Dirjenbun, 2015).

In 2014, total CPO production in the world was 58.4 million tons. The CPO market share was 34.47 percent of the total world vegetable oil. By 2025, the world’s vegetable oils will increase by nearly 30 percent to 218.9 million tons. The world vegetable oil growth rate is evenly 2.36 percent per year, while CPO is growing faster, at 2.75 percent per year (Dirjenbun, 2015). The Indonesian palm oil industry has a growth in the future, where CPO, in the global market, remains the largest source of vegetable oil. Indonesia has the advantage to export CPO. However, in the case of Indonesia’s downstream palm oil industry, it was defeated by Malaysia. Since 1996, Malaysia has developed a downstream palm oil industry that produces palm oil downstream products with high added value compared to exporting CPO (Rasiah & Shahrin, 2006).

In a volatile global marketplace, the implementation of agility is viewed as a fundamental key strategic consideration for survival. However, these obstacles can be overcome with the implementation of a proper strategic decision as well as high commitments from all management levels to make changes in day-to-day activities (Mukherjee, 2015; Rasiah & Shahrin, 2006). There are several steps to make a company successful in the competitive market. Companies must continuously focus on identifying different strategies, obtaining limited resources, obtaining information technology, and accumulating intellectual capabilities (Diugwu, 2011; Hua & Lee, 2014).

Research focusing on competitive advantage has been the subject of debate in theoretical and empirical business studies for more than 20 years (Barney, 1991; Escandón-Barbosa, 2016; Penrose, 1959; Pérez-Luño, 2016; Peteraf, 1993; Porter, 1996; Teece., 1997; Wernerfelt, 1984). The initial literature on competition begins with research conducted by Alderson (1937). Alderson leads off the basic principle of sustainable competitive advantage, where the fundamental aspect of competitive advantage is supplier specialization to meet variations in consumer demand.

Alderson (1937) was one of the first to agree that companies must succeed to create unique characteristics, then consumers can compare competing companies. In the next decade, Alderson was considered outdated, researchers such as Prahalad & Hamel (1990), Smith (2008) discussed that companies must learn how to create new profits and opportunities. Knowledge management as a human resource is a strategy for creating new profits and opportunities in the future (Cooper, 2006; Spender & Grant, 1996). Based on empirical studies, companies that can take advantage of market opportunities are more responsive in responding to rapid changes in the social environment to create SCA.

The results of previous research indicate that the focus of research that tries to test the antecedents of SCA as a single factor to build suitable constructs in the palm oil industry has not been widely studied (Bruton, 2008; Entebang, 2006; Said., 2016). Therefore, these findings are the same for industries in other sectors with unique backgrounds and resource constraints such as the palm oil industry in Indonesia.

2. Literature Review

Chaiprasit & Swierczek (2011) stated that in the era of free markets, competition becomes very difficult. Barney (1991) suggested that companies develop a Sustainable Competitive Advantage (SCA) that is difficult to replicate to create competitiveness. The SCA construct has become increasingly complex in the digital era which has given open access to information technology. One of the basic models developed by Penrose (1959) was to design the core competency model of SCA as a unique resource and capability. The idea is called a Resources-Based View (RBV) of the firm. Daft & Lengel (1983), Wernerfelt (1984) developed the theory of competitive advantage pioneered by Penrose (1959) in the classical theory of the firm, with the idea that strategic action requires a set of physical resources in the form of finance, technology, people, and organizations.

Febrian (2018) suggested a strategic analysis tool designed to help organizations uncover and protect the resources and capabilities that give them a long-term competitive advantage. Barney (1991) develops the so-called VRIN framework which defines characteristics resources need to possess to enable competitive advantage to be achieved. Resources are valuable if they enable a company to design and implement strategies that improve its efficiency and
effective. The characteristics of the VRIN framework include valuable resources, scarce resources, resources that are difficult to replicate and cannot be replaced (Alvarez & Barney, 2007; Barney, 1991).

SCA has been empirically examined in the context of the company’s strategic management. The results show that SCA is the company’s ability to gain profits in the long run (sustain above-normal return) by exploiting internal resources (Diugwu, 2011; Fiol, 2001; Said, 2016). But in the digital economy era, the condition of the business environment became uncertain and dynamic such that some academics and professionals (Daft & Lengel, 1983; Rumelt., 1991) in the field of strategic management had different opinions about the conceptualization of the latent construct of SCA. According to the dynamic capabilities perspective, Teece (1997) stated that the competitive advantage of firms is seen as resting on distinctive processes (ways of coordinating and combining), shaped by the firm’s (specific) asset positions (such as the firm’s portfolio of difficult-to-trade knowledge assets and complementary assets), and the evolution path(s) it has adopted or inherited. Whether and how a firm’s competitive advantage is eroded depends on the stability of market demand, and the ease of replicability (expanding internally), and imitability (replication by competitors) (Barney, 2001).

The fourth industrial revolution in the 21st century sparked a theoretical debate on SCA theory (Mishalska & Wywricka, 2017; Zhou, 2016). The fundamental principle of the fourth industrial revolution is the integration of machines, workflows, and systems by applying intelligent networks along the production chain and process. According to Mithas (2011) and Sambamurthy (2003) companies must have organizational agility. The characteristics of SCA in the fourth industrial revolution include superior resources, competition limits, and mobility limits. Furthermore, Prahalad & Hamel (1990) showed that companies must combine their resources and skills into core competencies that differentiate.

In recent years, SCA research in the palm oil industry has not been much discussed. Usually, the palm oil industry is measured through a market structure, market behavior, and company performance (Othman, 2019; Ralston, 2015). However, the two measurement concepts are fundamentally different in achieving SCA. Based on the perspective of external resources, the company will ignore the company’s uniqueness factor because it only focuses on the attractiveness of the market and competitors. SCA with the VRIN framework model (Barney, 1991) tries to build a competitive advantage through valuable resources, scarce resources, the inability of competitors to imitate excellence, and company resources are irreplaceable (Alvarez & Barney, 2007; Barney, 1991; Barney, 2001).

Palm oil industries will be able to produce different products and even be able to create new markets (Kim & Mauborgne, 2004) if the palm oil industries have VRIN characteristics. The theoretical gap and the strategic position of the palm oil industries in Riau Indonesia raise the intention of researchers to analyze the latent construct of SCA more comprehensively. Based on this background, the hypothesis developed in this study is how strong the correlation between the SCA theory is used as one of the strategies used by the palm oil industry in Riau, Indonesia.

3. Methods

The research focuses on the application of SCA theory in the palm oil industry in Riau Province, Indonesia. There are 234 palm oil companies in Riau Province, Indonesia being the population in this research. Before data collection, the researchers conducted a pre-test through personal interviews with nine palm oil company owners or managers who represented informants. The purpose of the pre-test is; First, investigate the level of respondents’ understanding of the questions to be asked in the questionnaire. Second, correcting and modifying the question items in the questionnaire, to fit the real phenomenon. After we made improvements to the questionnaire, 148 questionnaire packages were distributed personally to the palm oil companies that were sampled in Riau Province, Indonesia. The SCA questionnaire refers to Barney (1991) measured by the dimensions of “valuable, rare resource, inimitability, non-substitutable”. Data collection techniques were using survey methods. Each respondent received an envelope of questionnaire packages and was collected by the researchers two to seven days after the questionnaire was distributed. The researcher also ensured the anonymity of the respondents when taking back the completed questionnaire. From 148 questionnaires distributed, 81 questionnaire packages were returned and filled out completely. This indicates that the response rate in this study was 54.9%.

The sample was tested/analyzed through the Structural Equation Modeling (SEM) technique with the Partial Least Squares (PLS) analysis approach which aims to statistically test data obtained from 81 respondents based on Chin (1998). PLS-SEM was originally developed by Wold (1973, 1975, 1982). PLS is a soft modeling approach for SEM without assumptions about data distribution (Hair et al., 2016). Then, PLS-SEM becomes a perfect alternative to Covariance-Based SEM when the following situations are encountered (Ghozali, 2014; Neuman, 1994; Tenenhaus, 2008); (1) Small sample size, (2) Model framework has a little theoretical reference (3) Predictive accuracy to priority, (4) Ideal model specifications are uncertain.

Data was analyzed with SmartPLS 3.0 software developed by Ringle (2005). SmartPLS 3.0 software is used with the consideration that SmartPLS 3.0 is developed based on modeling path and bootstrapping, and recommended by Hair (2012) and Tenenhaus (2005). The researchers’ intention to use SmartPLS is to confirm the SCA theory.
Data is processed using Bootstrapping and PLS algorithms because all variables become latent variables and must be measured with dimensional constructs. The PLS algorithm has been used to estimate the value of all latent variables using the iteration procedure. We adopt the high order construct, and the combination of reflective second-order measurements (Febrian, 2018; Jarvis, 2003). Wold (1975) and Hair (2012) stated that the second-order factor uses the repeated indicators approach or also known as the hierarchical component model. This approach can be explained through the analysis of the inner model and outer model in the first-order construct.

In this research, the second-order factor is Sustainable Competitive Advantage (SCA). Furthermore, the first-order factor is the dimensions of valuable, rare resources, inimitability, and non-substitution. A model was made as an initial model with a Multidimensional latent construction. The second-order is reflective in the first order, and every first order is measured by an indicator.

### 4. Results and Discussion

#### 4.1. Results

Inferential statistical analysis of PLS-SEM will be carried out in three stages namely outer model analysis, inner model analysis, and overall structural model testing. First, the outer model analysis refers to Chin (1998) which states that construct correlations will meet convergent validity if the loading factor value is higher than 0.5. The PLS algorithm results show that the loading factor is above 0.5, then the indicator used has met the convergent validity. Then construct reliability testing is measured by Composite Reliability, Cronbach’s alpha, and Average Variance Extracted (AVE).

The construct will be reliable if the Composite Reliability value is above 0.7 and Cronbach’s alpha is above 0.6 and the AVE value is recommended above 0.5 (Ghozali, 2014; Hair et al., 2016; Ring et al., 2005). Table 2 shows the value of the outer model, which has met the criteria of validity and reliability.

Second, we analyze the inner model. The first-order construct in this study is reflective. An analysis of the inner model between the second-order constructs is investigated to ensure that the structural model that is built is robust and accurate (Joreskog & Wold, 1982). Robust regression is a regression method that is used when the data has an error distribution or is not normal or some outliers affect the model (Ghozali, 2006). The inner evaluation of the second-order construct model can be seen from all indicators, including the coefficient of determination ($R^2$), Predictive Relevance ($Q^2$), Goodness of Fit Index (GoF).

According to Chin (1998) the value of $R^2$ is 0.67 (strong), 0.33 (moderate) and below 0.19 (weak). This research model has a strong relationship between the variables analyzed. The SCA model in this study has a moderate category because the range of $R^2$ values is 0.361 to 0.776.

$Q^2$ testing is performed to determine the predictive capability of the blindfolding procedure. According to Chin (1998), if the value obtained is 0.02 then the model has a small predictive capability. If the value obtained is 0.15, then the model has a medium predictive capability. And if the value obtained is more than 0.35 then the model has a large predictive capability. The calculation of the $Q^2$ value is 0.913, which means the model has a large predictive capability. According to Chin (1998) the predictive value of Q-Square relevance is measured by the equation;

$$Q^2 = 1 - (1 - R_{1}^2) \times (1 - R_{2}^2) \times \cdots \times (1 - R_{n}^2)$$

$$Q^2 = 1 - (1 - (0.776^2)) \times (1 - (0.753^2)) \times (1 - (0.361^2)) \times (1 - (0.649^2))$$

$$Q^2 = 0.913$$

Where $R_{1}^2, R_{2}^2, \ldots, R_{n}^2$ is $R$ square variable endogenous in the SEM model.

Next is to test the Goodness of Fit index (GoF). GoF values are obtained by the average value of AVE being squared multiplied by $R^2$ (Febrian et al., 2018). AVE value must follow the equation below.

$$AVE = \frac{\sum \lambda_{i}^2}{\lambda_{i}^2 + \sum \text{var}(\varepsilon_{i})}$$

$$AVE = 0.674$$

Where $\lambda_{i}$ is a component loading to indicators and $\text{var}(\varepsilon_{i}) = 1 - \lambda_{i}^2$.
Table 2: The value of Cronbach’s Alpha, Composite Reliability and Average Variance Extracted

<table>
<thead>
<tr>
<th></th>
<th>Cronbach’s Alpha</th>
<th>Composite Reliability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuable</td>
<td>0.730</td>
<td>0.730</td>
<td>0.787</td>
</tr>
<tr>
<td>Rare Resources</td>
<td>0.509</td>
<td>0.516</td>
<td>0.751</td>
</tr>
<tr>
<td>Inimitability</td>
<td>0.590</td>
<td>0.627</td>
<td>0.565</td>
</tr>
<tr>
<td>Non-substitutability</td>
<td>0.501</td>
<td>0.573</td>
<td>0.593</td>
</tr>
<tr>
<td>Sustainable Competitive Advantage</td>
<td>0.726</td>
<td>0.800</td>
<td>0.512</td>
</tr>
</tbody>
</table>

$R^2 =$ Average of R Square on first order = 0.634 

Then, the Goodness of Fit Index (GoF) can be calculated as follows.

\[ \text{GoF} = \sqrt{\text{AVE}^2 \times R^2} \]

\[ \text{GoF} = \sqrt{0.674^2 \times 0.634} \]

\[ \text{GoF} = 0.536 \]

According to Tenenhaus et al. (2005), GoF has a small criterion if it gets a value of 0.1, medium GoF is 0.25 and a large GoF is 0.38. Based on the calculation of the GoF value in 81 samples, the model has a large GoF value (0.536) so that the existing SCA model represents the real phenomenon in the Palm Oil Industry in Riau Indonesia.

Third, structural model analysis has been tested through the Bootstrapping process. Produce $t$-value. If the $t$-value is greater than the $t$-statistic with a confidence level of 95% ($> 1.96$) then the hypothesis is significant. Figure 1 is the result of bootstrapping.

Meanwhile, to find out the extent of influence between the variables in the SCA construct, we investigate the loading factor of the original sample output SmartPLS.

Based on Table 4, t-statistics obtained four hypotheses having t-statistic values above 1.962. The hypothesis has been shown to have a positive and significant influence. Valuable, rare resources, inability to initiate or inimitability and non-substitutability are the forming factors of SCA constructs which are reflective confirmatory factors. The loading factor based on the Original Sample (O) shows a value above 0.5 (Ghozali, 2014) which means the percentage of influence exerted between the second-order construct to the first-order construct is large. The significance is more than 5%.

4.2. Discussion

The results of this study confirm the implementation of the theory of SCA (Barney, 1991; Penrose, 1959) in the Palm Oil Industry in Riau Indonesia. The ground theory of this research refers to the Resources-based theory of the firm (RBV). Penrose (1959) stated that company capabilities and resources are not homogeneous but heterogeneous, and productive activities derived from company resources will provide uniqueness as a sustainable value.

Hoffman (2000) has been debating about capability gaps where companies can have better capabilities than competitors such as business system gaps, position gaps, regulatory or legal gaps, organizational gaps, and managerial quality. The debate has provided opportunities for further exploration of potential sources of SCA. Based on previous literature studies many researchers in the field of strategic management agree that in market competition, companies must be able to generate effective and efficient strategies to create competitive advantage and continue to exist in
the future (Dehning & Stratopoulos, 2003; Diugwu, 2011; Febril et al., 2018; Fiol, 2001; Hoffman, 2000; Kotabe & Murray, 2004; Lewis, 2000; Oliver, 1997; Said et al., 2016; Srivastava et al., 2013; Xie et al., 2013).

Hall (1993), Barney (1991), Hofmann (2000), and Teece et al. (2012) focused on an in-depth discussion of the factors involved in the SCA construct. Not all resources have the potential to create an SCA but that resources and capability must have four attributes: scarce, value, inability to be imitated, and in ability to be substituted (Alvarez & Barney, 2007; Fiol, 2001; Huang, 2015; Liu, 2013; McGrath, 2013; Reed and DeFillippi, 1990). Likewise, with Peteraf (1993) the context of RBV points to four conditions underlying SCA, including superior resources, competition constraints (including imitation barriers and substitution barriers) and mobility constraints. Furthermore, Prahalad Hamel (1990) showed that companies must combine their resources and skills into core competencies that differentiate from competitors. Based on this point of view, SCA theory can only be realized when companies combine various resources in such a way that they achieve unique competencies or abilities that are valuable in the market that exceeds what is done by competitors.

The initial assumption underlying this research is proven by the results of the SEM-PLS test with a second-order approach, which tests whether the VRIN framework with factors that are “valuable, rare resources, inimitability and non-substitutability” are antecedents that create the SCA construct. The research question from this paper will examine whether the VRIN framework is compatible with current business conditions in the palm oil industry in Indonesia, which has entered into the digital economy era.

The VRIN framework is explained as a measurement tool for analyzing potential company resources and capabilities to be used as a reference for corporate strategy (Barney, 1991). After the company has successfully explored its resources and capabilities through VRIN, the goal of the company’s strategy is to achieve sustainability of the company’s activities from time to time. Companies must emphasize the scarce and unique resources so that companies more easily achieve a competitive advantage, although the resources they have are valuable, scarce, and not easily replaced, but easy to emulate, the company will find it difficult to achieve good sustainability. The solution is to grant patents to resources (Bachriadi, 2007).

The theoretical findings of this study indicate that valuable, rare resources, inimitability, and non-substitutability reflect the construct of SCA in the palm oil industry in Riau Indonesia. From the results of the PLS-SEM test, the palm oil industry in the Riau province of Indonesia proves that there is a strong correlation between the latent variables of the first-order and second-order with moderate levels. Each dimension forming SCA in the palm oil industry in Riau Indonesia by referring to Barney (1991) was explained through four-point.

First, rare resources are unique and cannot be found by other companies (Barney, 1991). Rare resources include the scarcity of human resources as executives and employees who work in the company. In the palm oil industry in Riau, rare resources are scarcity of raw materials such as fertilizer used, and the physical form of products that have high quality. Among all SCA dimensions tested, rare resources are the dimension with the highest t-statistic with the value obtained is 36.831 which is greater than the PLS standard value of 1.962 with a significance level of 5%. Based on the confirmation of the results of data analysis on 81 palm oil companies in Riau Indonesia, it is known that rare resources that are difficult to replicate are related to the company’s ability to utilize the capacity of production machines, which produce quality products. Such as tractor ownership, special palm oil farming technology, fertilizer administration techniques, and management training for company employees so that skilled human resources are created. The most important thing from rare resources is the business partnership relationship. With a wide and bound network, market access will be obtained. This is consistent with the statement by Barney (1991) who stated that rare resources are their ability to reconfigure existing resources into valuable products, and rare resources that are not controlled or possessed by many competing firms, are necessary to sustain a competitive advantage. Researchers who have supported this finding are Black and Boal (1994) and Madhani (2010).

Table 4: Path Coefficients (Mean, STDEV, T Statistics, P Values)

<table>
<thead>
<tr>
<th>Constructs relationships</th>
<th>Original Sample (O)</th>
<th>Sample Mean (M)</th>
<th>STDEV</th>
<th>T Statistics</th>
<th>P Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable Competitive Advantage → Valuable</td>
<td>0.881</td>
<td>0.879</td>
<td>0.030</td>
<td>29.609</td>
<td>0.000</td>
</tr>
<tr>
<td>Sustainable Competitive Advantage → Rare Resources</td>
<td>0.868</td>
<td>0.872</td>
<td>0.024</td>
<td>36.831</td>
<td>0.000</td>
</tr>
<tr>
<td>Sustainable Competitive Advantage → Inimitability</td>
<td>0.601</td>
<td>0.624</td>
<td>0.100</td>
<td>6.002</td>
<td>0.000</td>
</tr>
<tr>
<td>Sustainable Competitive Advantage → Non-Substitutability</td>
<td>0.806</td>
<td>0.816</td>
<td>0.039</td>
<td>20.462</td>
<td>0.000</td>
</tr>
</tbody>
</table>

...
Second, company resources will be valuable if they provide strategic value for the company and help the company in exploiting market opportunities. Valuable resources help in reducing market threats. Valuable resources must be able to increase the efficiency and effectiveness of companies that outperform their competitors or reduce their competitive weaknesses. Valuable includes increasing sales growth, products produced through efficient production processes, and product quality that is better than competitors. Valuable is a dimension with a high t-statistic value second after the dimension of rare resources, with a value of 29.69 greater than the standard PLS value of 1.962 with a significance level of 5%. Based on the confirmation of the results of data analysis on 81 palm oil companies in Riau, it is known that the fruits of the palm oil trees produced are in accordance with the Indonesian Sustainable Palm Oil System (ISPO) standard, so that the products produced have good quality. Besides, palm oil companies in Riau have adopted information technology in their production processes. The benefit received by the palm oil industry in Riau is sales growth. This is consistent with the opinion of Barney (1991) who stated that resources must be valuable in seizing opportunities for companies, neutralizing threats, or protecting companies from threats. Existing valuables will increase sales growth. Previous research supporting this finding was (Filser, 2014; Acıkdilli & Ayhan, 2013).

Third, a resource that has no substitute is the inability of competitors to imitate the products produced because the resources used are very difficult to find and have no substitutes. Non-substitutable includes human and natural resources, knowledge resources that cannot be copied by competitors so that it does not allow other companies to create similar quality products. In addition to the ISPO standardization, the palm oil companies must improve the quality of products with reference to the Roundtable on Sustainable Palm Oil (RSPO) certification. Through optimization of ISPO and RSPO standardization, companies need to improve product differentiation innovation through research and development of palm oil products. In the non-substitution aspect, companies must have good relations with the association and the government to gain market access and for an easy supply chain process. The non-substitutability dimension gets a t-statistic value of 20.462. This indicates that the palm oil companies in Riau already have different resources. The difference in resources is also the company’s advantage, therefore, the company does not want to let competitors copy their resources. This is supported by the opinion of Barney (1991) who said that the relevant resources must be non-substitutable or costly to substitute, namely competitors cannot access the resources to implement the same strategy. Researchers who have supported this finding are (Mithas, 2011).

Fourth, competitors’ inability to imitate resources, is the company’s ability to create ideal business processes. Resources that are difficult to replicate will provide large investments in limited resources, competitors will be reluctant to enter the market because the price of palm oil is offered below the market price (Barney, 1991). An inimitable resource is difficult to imitate. A resource is inimitable if it is difficult for another firm to acquire it or to substitute something else in its place. The inimitability dimension has the smallest t-statistic among other dimensions, with the value obtained is 6.002 but still above the PLS standard value of 1.962 with a significance level of 5%. This indicates that the dimension of inimitability has not been fully applied by the palm oil companies in Riau Indonesia. A resource creation strategy that is difficult to replicate can be stated as the inability of human resources to imitate business processes, pricing strategies, products, and marketing methods. And then, not many competitors have the same resources and the same product. This is contrary to the palm oil companies where companies usually have the same product, and on average have a similar production process.

In the digital economy era, the ability to imitate a company is very important. Even when competitors easily mimic the success of a company, this can be a serious threat to watch out for. Nowadays, competitors can imitate almost all of the company’s unique competencies. The critical problem is about time (Hoffman, 2000). Time is a measure of the extent to which imitation can be realized, sooner or later competitors may only imitate external or physical designs, but intangible resources such as knowledge, raw material, or product quality are difficult to imitate resources. The ability to imitate has occurred because the speed of imitation influences the durability of a company’s competitive advantage. If competitors can emulate core competencies quickly, then the company is unable to survive a competitive advantage (Jalal, 2014). In a real phenomenon, the palm oil industry tends to imitate competitors’ business processes, because usually, a business process in the palm oil industry is easy to imitate by competitors.

Competitors imitating a business process or product is a normal activity, but if only the ability to copy is owned it is difficult for companies to lead or become market leaders in the palm oil industry in Riau Indonesia. The company’s inability to create business processes or products that are difficult to imitate will be a barrier for the company to be sustainable and survive in the future. The palm oil companies must know that the current business environment is in the digital economy era, so the palm oil industry in Riau Indonesia must create unique products that make it difficult for competitors to copy through the process of entrepreneurial action (Alvarez & Barney, 2007; Purnomo et al., 2018).
Overall, this paper shows the characteristics of the SCA construct as an RBV of the firm (Barney, 1991; Collins & Ram, 2003; Peteraf, 1993; Teece, 2012; Teece et al., 1997; Wernerfelt, 1984) on palm oil companies in Riau Indonesia. The factor of creating SCA starts from rare resources as the first factor, then the second is the valuable factor, the third factor is non-substitutability and the fourth factor is inimitability. PLS test results show three constructs namely rare resources, valuable, and non-substitutability have influenced the creation of SCA constructs with strong correlations. However, SCA in the palm oil industry in Riau Province is still relevant in today’s business environment, the palm oil industry in Riau Province must adopt technological aspects and capability strategies that have been adapted to environmental conditions today.

5. Conclusion

The conclusion of this paper confirms the theory of SCA. The problems that have been faced by the palm oil industry such as the inability to create high-quality products and difficulty for competitors to copy can be overcome by increasing the capability of human resources to be able to innovate through knowledge management. These results show that valuable, rare resources, inimitability, and non-substitutability directly affect the sustainable competitive advantage of palm oil industries in Riau, Indonesia.

Based on the PLS test results, SCA has been proven to be applicable to the palm oil industry. The findings in this research make us confident in the SCA theory based on the RBV (Barney, 1991). First, this study confirms that the construct of rare resources, valuable, non-substitutability resources, and inimitability resources already exists in the palm oil industry in Riau Indonesia, thus creating competitive ability and being able to create entrepreneurial opportunities in the future. Limited human resources have dynamic conditions and become a determining factor for sustainable competitive advantage of palm oil industries in Riau Province.

Second, this research confirms achieving SCA through entrepreneurial action by Alvarez and Barney (2007). This research explained that entrepreneurial opportunities are created based on the role of the company’s resources and capabilities. Hence, SCA will be created if the company has been able to carry out entrepreneurial action to execute the company’s resources and capabilities. In the future, how to compete will change dramatically and quickly. There is no single strong evidence and it has been predicted by researchers today, that competition is a way to create SCA.

References


