

Oil palm industry digitalization for sustainable plantation production in community economic development

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Abstract. In industry 4.0, the use of digitization in oil palm industry has encouraged economic development. It can help the industry on the marketing. The government must ensure of the application provider on the industry digitization in trading. This research discusses how does the government regulate the use of digitization in the palm oil industry to guarantee the sustainable plantation products. The method employed the normative juridical analysis. It discusses government regulations also have major benefits for the digitization industry, namely ensuring sustainable plantations, reducing operating costs, and creating efficiencies that lead to increased exports of domestic products. The government has issued the information of electronic transactions in the Law Number 11 of 2008 in conjunction with Law Number 19 of 2016. It can eliminate against the industry concerning destruction, forest fires, and infiltration of the local springs caused by oil palm plantations. The result shows about the main benefits of the digitization on the oil palm industry. The oil palm plantation of digitization shows the aspects of production, social, economy, and environment. It recommends the industry should uphold the liability of plantation workers in their harvests and marketing. Therefore, fair business competition of the oil palm industry can be obtained.

1. Introduction

In Indonesia, digital technology is the key of the strongest competitiveness in the midst of trade competition in the global market. The application of palm oil digitization has become the trend as well as custom in all other palm oil plantations and mills. The yield of palm oil plantations has become a leading commodity that is able to contribute to the improvement of the national economy, so the useful digitization in its marketing has grown rapidly. Oil palm plantations are able to provide employment, foodstuffs, bio-energy raw materials, development of rural areas and environmental preservation. It should be noted and developed into a sustainable palm oil plantation [1].

In the fourth industrial revolution (industry 4.0), the use of digitization in the palm oil industry has encouraged economic development. It can help the industry on the marketing of crude palm oil. The Indonesian government also plays a role through its authority in realizing the development of the marketing of crude palm oil by forming the state-owned enterprise. The state owned enterprise is one of the business entities that embodies the role of the government in the economic field, whose main objective improves the welfare of the community [2].



Implementation through digitization in the palm oil industry has guaranteed the community development. Legally the legal relationship between the palm oil agent of the marketing and the industry in the using of palm oil digitization technology must have the balanced position. The development of this technology has become the main basis in the use of digitizing the palm oil industry which can be implemented well. The yield from palm oil is one of Indonesia's most developed natural resources, both domestically and abroad. Commodities trading of Crude Palm Oil (CPO) has prompted the Indonesian government to spur the development of oil palm plantations [3].

The use of digitization in oil palm industry has fostered economic development, which it due to the development of the internet network. It is because the digitization can obtain the helpful for the oil palm industry on the marketing. In the data of the Ministry of Communications and Information stated that Internet users in Indonesia has reached eighty-two million (82 million) people, so Indonesia is ranked the eighth (8th) in the world [4]. The use of digitization in palm oil marketing has strengthened the government's rules in trading for the community. It makes application providers and seller obliged to be responsible for organizing commerce for consumers. It can obtain the helpful for the oil palm industry on the marketing. But the industry must protect their privacy data in the digitalization of marketing.

Since 2006, Indonesia has produced the highest CPO production in the world, followed by Malaysia. But other countries such as Thailand, Nigeria and Colombia have a little contribution of the CPO. CPO export growth fulfilled by demand and competitive prices with vegetable oil most widely consumed, such as soybean, rapeseed, and palm oil [5].

In general the formation of a country's production greatly influences to the advantages of human resources and technological superiority [6]. Therefore, the implementation of trade marketing between countries has increased economic development. It had shown the development of the world economy very rapidly. All this causes the flow of globalization and free trade to become more varied, so there are potential challenges faced by the business and consumers through the using of 'illegal' that can occur. The oil palm industries must agree to trade with the established law. The digitization of palm oil marketing has also been carried out well. The digitization of the palm oil industry forms an application in its marketing. It has been same with electronic commerce.

Electronic transactions in oil palm marketing have 3 (three) basic advantages, namely accuracy, speed and efficiency. The parties made the agreement indirectly in commercial transactions, which contribute to the local government budget revenue from taxes for online purchases. Therefore, the implementation of digitalization of palm oil marketing must include a deadline for setting the right price in the marketing. This research discusses how does the government regulate the use of digitization in the palm oil industry to guarantee the sustainable plantation products.

2. Methods

This study uses a normative juridical analysis in the terms of systematic of the legal foundation. Analysis explains the facts carefully in responding of problems [7]. This study describes the government regulation on the use of digitization of the palm oil industry to assure a sustainable plantations for community economic development.

3. Results and discussion

3.1. *The history of digitization in the palm oil industry*

In industry 4.0, Indonesia has improved the development of technological law so the government has not only handled of the trading between countries, but has guaranteed the implementation of electronic transactions via the internet. The development of digitization had begun with a research project of the internet network. It sponsored from the United States Military in 1960, which called ARPANET (Advanced Research Projects Agency Network). The internet research project on digitization was originally intended to create a means of communication that has secure resources and strengths and

enables coordination between military activities. However, the development of digitalization has increasingly been used by industry [8].

The use of digitization in industry has increased since 2000. In this 21 century the environment of oil palm plantations must be reported using information on digitization of land. The implementation of trading marketing of Crude Palm Oil (CPO) must produce legal certainty in marketing activities for the parties involved. In this regard has formed an agreement between the parties, whereby the oil palm plantation industry will cooperate in marketing CPO through its marketing agents.

3.2. The regulating of the government on the use of digitization by oil palm industry

Technological developments have emerged and have grown the economic with using the digital generation in Indonesian palm oil industry. Government regulations regarding the digitization of the oil palm industry also have major benefits for the industry, namely ensuring sustainable plantations, reducing operating costs, and creating efficiencies that lead to increased exports of domestic products. There are four sub-models of the digitization of the oil palm industry as follows [9]:

1. Society of industry

The existence of oil palm plantations raises a lot of positive and negative effects for society. Therefore, the necessary social existence of oil palm plantations is increasingly evident with the use of digitalization on marketing. In this case the industry must ensure the protection of personal data from the marketing agent by use the digitization.

2. Plantation environment

In the plantation environment, there have been losses due to forest fires. This has resulted in huge losses to society in agriculture (crops and crops), the environment, forestry, mining, trade, transportation, tourism and public health. In the plantation environment, there is an illustration of how the expansion of new plantations will increase CO₂ emissions due to land use changes that have been described in industrial digitization.

3. Economic development

Economic development in oil palm plantations has been clearly divided with several variables for the demand and revenue of the oil palm industry through the use of industrial digitization. However, there are differences in the marketing of palm oil in terms of foreign demand (exports) and domestic demand. CPO marketing through the industrial digitization system is assumed to increase along with the growth of the world's population. The global marketing of CPO in its digitalized use will increase global growth and population, income and current market developments. Domestic CPO marketing is also reflected in domestic demand for cooking oil and biodiesel. Therefore, digitalization of marketing in the industry greatly influences industrial economic development on CPO prices which can increase.

4. CPO Production

In on CPO production required land area for oil palm plantations adapted to the conditions by the Central Bureau of Statistics. This can be found in the use of digitization in industry. CPO production from year to year will be observed using the driving variables for production policies, replanting and land clearing for new oil palm plantations by using the digitization industry.

From the sub-model of oil palm plantations, it can be seen that the sub-model of oil palm plantations can eradicate destruction, forest fires, and infiltration of local springs due to oil palm plantations. Consequently, the using of digitization in the palm oil industry has helped the community.

Government regulations regarding the use of digitalization of the palm oil marketing industry have been shown in Industry 4.0 in Indonesia which is developing to be useful and of quality. Government regulations have issued digitalization of trade and information regarding plantations must be carried out in accordance with Law Number 11 of 2008 in conjunction with Law Number 19 of 2016 concerning Electronic Information and Transactions. The regulating of the government can show industry to use marketing digitization clearly. Digitizing industry marketing of CPO will show to become the electronic transactions. The operation of electronic transactions must also be in accordance

with the stipulated provisions. Even though there is an on-going implementation of electronic transactions between countries, they can be utilized by the public between countries well.

The palm oil plantation industry in Indonesia has become the largest contributor of foreign exchange in the non-oil and gas sector which has reached up to 34.33% from 2017 to 2019. So the industries use of electronic transaction on the trading. In this case, the implementation of the electronic system shows the minimum requirements that aim to prevent an unlawful act under the parties' agreement [10]. Fairness of agreement has also become the most important part in building a balanced position between application providers, sellers and consumers in making purchases through application media service providers in the delivery of goods purchased by consumers can be guaranteed in accordance with applicable regulations [11].

The main foundation that was formed was the digitization of the CPO trade carried out by application service providers as agents and provider companies that guaranteed the internet network in an electronic agreement. But consumers must be carefully on the transactions via the internet. These problems include issues regarding payment mechanisms and security guarantees in transactions (security risk) [12]. Therefore, the using of digitization on the palm oil marketing must issue the useful agreement between the consumer and the seller.

4. Conclusions

In industry 4.0, the use of digitization in the palm oil industry has encouraged economic development. The government must choose the application provider and seller, which it can be obliged to be responsible on applying the digitization industry marketing for consumers in Indonesia. Therefore, the benefits of digitization in marketing have grown rapidly. Government regulations regarding the digitization of the oil palm industry also have major benefits for the industry, namely ensuring sustainable plantations, reducing operating costs, and creating efficiencies that lead to increased exports of domestic products. Government regulations have issued digitalization of trade and information regarding plantations must be carried out in accordance with Law Number 11 of 2008 in conjunction with Law Number 19 of 2016 concerning Electronic Information and Transactions. The use of digitization on the palm oil marketing must issue the greatness agreement between the consumer and the seller. The industry must uphold the liability of plantation workers in digitally producing information on their harvests and marketing. It will make the interests of all parties distributed according to their rights and obligations proportionately. Therefore, fair business competition of the oil palm industry can be obtained.

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