Chapter 10

“Ayopanen.id” Design the First Agricultural Auction in Indonesia's as an Effort to Increase Marketing of Agricultural Products

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ABSTRACT
In the era of industrial revolution 4.0 which was marked by the development of artificial intelligence (AI), drones and robots integrated with the internet, had a significant impact on economic and socio-cultural aspects. However, this development has not touched several key sectors such as agriculture, livestock and fisheries. Examples are marketing of agriculture, fisheries, and livestock which incidentally are small-scale business actors who have never involved activities such as advertising, promotion and marketing techniques for modern products. Dissemination of agricultural information is still communicated between individuals. The biggest sources of agricultural information are radio, letters, and face-to-face communication. Although this form of communication is still important, it is important to know whether the internet has a greater influence on industrial development than other communication channels. One of them is the impact of how farmers get information and the ability of farmers to interact with consumers. Indonesia's population has now reached 271 million people. The agricultural sector is the main support for food needs. The agricultural sector also has an important role in maintaining national economic stability amid the 4.0 industrial revolution. Agricultural problems in general certainly do not stop there. Low developments in this sector provide a "snowball effect" in the form of a long chain of product distribution. This is exacerbated by Indonesia's agricultural products which are still very volatile. To provide efficiency and effectiveness in the marketing system, innovation in infrastructure development is needed both in terms of production and marketing. Ayopanen.id as a platform to encourage the procurement of agricultural commodities directly to build effective relationships between agricultural production with consumers. Ayopanen.id is the first auction platform that provides facilities to sellers (farmers) to advertise their products through the platform, also provides the user to
determine prices and quantity and conduct negotiation features between sellers and buyers directly and transparently, so that farmers could have a better bargaining position. To prevent fraud and other criminal acts, Ayopanen.id facilitates its user by becoming the third party for every transaction taken. Ayopanen.id has partners with product delivery services that can be used by both sellers and buyers to distribute goods. Ayopanen.id has a mission to help farmers have more bidding power on middlemen by let the middlemen compete to give the better prices so farmers could decide to whom they will sell the products. Ayopanen.id is here to overcome the limitations of information every stakeholders need.

**Key Words:** Agriculture, Auction Platform, Industry 4.0, Bargaining Position, Agricultural Products Marketing

1. **INTRODUCTION**

Nowadays, in every aspect of our day to day life, the internet has become an undivided part of our life. Seeing Asia as the world's largest internet user makes it a good target market for marketing various products. One of the main target markets now is Indonesia, which has a population of 255 million. Indonesian internet penetration has only reached 28.5% of the total population. In the completion of the 4.0 industrial revolution program, every basic element in each line of the target field is required to form a technological foundation and global competitiveness, including in agriculture. Technology-oriented is one of the absolute conditions in the develop agriculture sector.

On the other hand, currently, the agricultural sector is faced with various problems. One of them is marketing inefficiency. Most of the farmers in Indonesia have a small area of arable land which causes limited marketing access so that the bargaining position of farmers is low. According to Mahmudah and Harianto (2014), small farmers have no power in bargaining with middlemen, so the farmer's selling price is low.

To improve the efficiency and effectiveness of marketing farmer groups can be done by adopting digital information technology. Through the use of digital information technology in the industrial revolution 4.0 era, it is expected to be able to increase the bargaining position of farmers. Ayopanen.id connects farmers or first producers directly with a wider market without relying on specific buyers so that the seller and buyer can reach an agreement on the appropriate price. Ayopanen.id is a platform for farmers to advertise their harvest products. Ayopanen.id provides an opportunity for farmers to gain greater market access so that they can determine the price and number of products to sell. Ayopanen.id also equipped negotiation feature so that prices are determined by an agreement between the seller and buyer directly and transparently. Therefore, Ayopanen.id is present as a solution to the problems of agricultural marketing and improving farmers' welfare.
2. LITERATURE REVIEW

E-Commerce
E-commerce is a marketing system that uses the internet for running a business transaction. E-commerce can be applied through websites and also mobile applications. E-commerce classifications are divided into 9 such as business to business (B2B), business to customer (B2C), business to business to customer (B2B2C), consumer to business (C2B), consumer to consumer (C2C), business to employees (B2E), intrabusiness e-commerce, collaborative commerce, and e-government (Turban et al., 2015).

Bargaining Position of Farmers
Bargaining power is the dominance capacity of one party in negotiations (Sukirno, 2002). The bargaining position of farmers tends to be weak. It is due to their not getting enough market access and information, as well as inadequate capital. The majority of Indonesian farmers are powerless in negotiating the process of their products.

Internet of Things (IoT)
Internet is the relationship between various types of computers and networks in entire world that have different operating systems and applications. That relationship uses the progress of communicating using the Transmission Control Protocol or Internet Protocol (TCP/IP). On the other hand, IoT is a concept that aims to expand the benefits of internet connectivity that’s constantly connected (Supriyanto, 2008).

Innovation Management
Kotler (2018) said that innovation is combined from various processes. He said that innovation is not just a new idea, concept, or object, but innovation is a description of the entire process. Besides that, Likar et al (2013) said that innovation is about managing a process that sends new products or services to customer effectively, efficiently, and faster than competitors. An innovator has to be creative and open minded. Creativity and open mind can improve productivity and efficiency by solving the business obstacles. There are four processes of idea management, start from planning, organizing, managing, and controlling the whole process of invention creation until done.

3. METHODOLOGY

The collection of data needed is done through, as follows:

a. Library Research. To reinforce ideas in analyzing and evaluating the results of field research, a strong foundation is needed from theories from reading books, previous research results, scientific magazines, and other sources related to this research.

b. Field Research. Conducted through a review of the object of research, namely producers of agricultural products (farmers), to obtain data that is real, precise, and accurate. The techniques used are 1) Observation, which is observing marketing
patterns and marketing strategies carried out by the market in distributing crops. 2) Interview (Interview), which is conducting question and answer on speakers related to the object of research. Done at the time of observation, i.e. communicating with buyers and sellers (farmers) encountered during the observation to obtain relevant and useful input for discussion in this study.

The data collected will be analyzed by 2 methods, namely:

a. Method of Content Analysis / Content analysis Content analysis/content analysis is a method for studying and analyzing communication systematically, objectively, and quantitatively on messages that appear. Content analysis/content analysis is a model of literary study that is relatively new and can be seen from the target to be revealed, because it is used if it wants to reveal, understand, and capture the message of literary works, including poetry. So, content analysis/content analysis is an investigation technique that describes objectively, systematically, and qualitatively with analysis to understand the text. An important component of this analysis is the existence of a problem consulted through theory. Content analysis/content analysis in this study includes marketing strategies for harvests, including how to make sales. The results of observations and interviews will be analyzed descriptively by focusing on the experience data of people who have a role in crop marketing to review the various problems encountered.

b. Deductive Analysis Method Deductive analysis is a scientific method where facts are analyzed and elaborated with applicable theories. Next try to conclude to make solutions that provide benefits, especially for the marketing world of crops.

4. RESULT & DISCUSSION

4.1 Result
In this section we will show the preview of our website page also the features of Ayopanen.id, such as: 1) Facilitates seller to advertise through Ayopanen.id (Picture 1), 2) Provides seller to determine price, quantity, 3) Also provides transparent auction and facilitates seller to choose 5 best offer, 4) Ayopanen.id will also provide a voucher containing a barcode that will be published after all payments are completed.
4.2 Discussion

From the result we obtained, Ayopanen.id apply this business process. Here is the ways of work of Ayopanen.id:

1. Farmers will sell their product on Ayopanen.id and determine their own price and quantity.
2. Ally buyers can offer the price they want on Ayopanen.id auction’s dashboard to entice the seller.
3. Ayopanen.id will display the prices that have been offered by buyers to seller.
4. Ayopanen.id sends confirmation email to the five highest bidders and ask for their agreement.
5. Ayopanen.id announced the auction winners and finish their payment.
5. CONCLUSION & RECOMMENDATION

5.1 Conclusion

Currently, small farmers in Indonesia have no power in bidding on middlemen, so prices of farmers’ goods are very cheap. This is due to low production and high competition among farmers, making them more accepting of process regardless of their production. Ayopanen.id exists to be the solution of that problem. Ayopanen.id provides facilities for farmers as a seller to advertise their products through the website of Ayopanen.id. Ayopanen.id also provides attractive features for farmers to determine prices, quantity, get greater market access, and conduct negotiation features between sellers and buyers directly and transparently, and also provides a voucher containing a barcode that will be published after all payments are completed. Ayopanen.id becoming the third party for every transaction that takes place. Absolutely, the purpose is to prevent fraud and other criminal acts.

5.2 Recommendation

Ayopanen.id is expected to improve facilities in terms of transportation to facilitate the distribution of products between sellers and buyers. In addition, farmers can also support existing technology well. So, every operation can runs well according to expectations.

REFERENCES