

Analysis of Distribution Information System of Rice Supply Chain Management at PT. Jatisari Sri Rejeki

Parlindungan Harahap¹, R. A. E. Virgana¹, Wiwik Tri Hapsari¹ & Tezza Adriansyah Anwar²

¹Engineering Faculty, Widyatama University, Indonesia

²Business and Management Faculty, Widyatama University, Indonesia

Correspondence: Parlindungan Harahap, Engineering Faculty, Widyatama University, Indonesia.

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Abstract

One of Indonesia's commodities that has great potential is rice. Rice is a strategic commodity and is a staple food of the Indonesian nation. The consumption of rice every year always increases along with the rate of population increase while the increase of rice consumption is not comparable with the rate of increase of production and harvest area. The sequence of rice processes undergoes several stages of the supply chain: agriculture (growing), harvesting, harvesting, packing, and transportation. In terms of actors, the supply chain consists of several businesses such as farmers, local wholesalers such as collecting traders, traditional retailers / supermarkets, and customers. PT. Jatisari Sri Rejeki Karawang is one of the companies that organize the management of food industry business especially the rice along with its chain of activities in an integrated manner by utilizing all resources effectively, efficiently and synergistically so as to increase business growth to achieve the intent and purpose of the company.

Keywords: SCM, rice, distribution, information system

1. Introduction

Increased food security in Indonesia, which often does not work optimally, is associated with a lack of food diversification and innovation in the processing of various foodstuffs produced. Whereas one important fact that has been hampering the optimal utilization of various types of food is less effective interaction between business actors in the process of delivery of certain food products or commodities. To support the optimization of efforts to increase food security, innovation is needed in improving the effectiveness of commodity flow through better performance among business actors using a supply chain management approach (supply chain management).

One of Indonesia's commodities that have great potential is rice. Rice is a strategic commodity and is a staple food of the Indonesian nation. The consumption of rice every year always increases along with the rate of population increase while the increase of rice consumption is not comparable with the rate of increase of production and harvest area. The sequence of rice processes undergoes several stages of the supply chain: agriculture (growing), harvesting, harvesting, packing, and transportation. In terms of actors, the supply chain consists of several businesses such as farmers, local wholesalers such as collecting traders, traditional retailers/supermarkets, and customers.

PT. Jatisari Sri Rejeki Karawang is one of the companies that organize the management of food industry business especially rice and its integration chain activities by utilizing all resources effectively, efficiently and synergistically so as to increase business growth to achieve the intent and purpose of the company.

PT Jatisari Sri Rejeki, located in Cikampek, Karawang, was acquired by TPSF since 2010. To expand its rice production, TPSF also acquired PT Alam Makmur Sembada which is famous for its "Ayam Jago" rice brand and located in Cikarang, Bekasi also in 2010. TPSF then changed the name of PT Alam Makmur Sembada to PT Indo Beras Unggul. Both companies are capable of processing 1,000 tons of Dry Grain, Harvest per day into rice. With this capacity and the added capacity of silos (grain storage) of both companies to reach 24,000 tons of MPD, it is not impossible if Rice TPS can control most of the national rice market. Some of the products that become the mainstay are rice with trademark "Ayam Jago", "Bangkok Palace", "Vitarice", and "Miss Holland". The company also started introducing a new brand named "Maknyus" rice.

PT. Jatisari serves large quantities of rice orders and distributes them to public markets. Jatisari in addition to serving the ordering of rice and distribution they also produce rice with their own brand that is Jatisari, the production process

also includes the processing of raw materials in the form of grain then proceed to the process of grinding, drying, until it becomes finished rice. At this time Jatisari sell and produce rice to be marketed to big market or big agent such as Bulog, Supermarket and Public Market. The process of selling rice is currently done by giving direct samples to each agent that is Bulog, Public Market, Supermarkets, or between Jatisari. In addition Jatisari is producing various types of rice in accordance with the request of the Agent itself.

2. Literature Review

Rice is a staple food, which is the main source of carbohydrates for almost all Indonesians. Due to the enormous demand to meet the 200 million people of Indonesia, the demand and supply of rice becomes a huge business, from small companies to large companies, all wanting a rice supply chain business. (Akande, 2014)

The Bulog Public Company is a state-owned enterprise that is tasked with fulfilling and maintaining, the supply of rice for the whole of Indonesia, but not yet optimal because of the large market share, various methodologies have been used, for the distribution of good, uniform, cheap, and timely rice (Abdul et al, 2018; Rifal, 2016). Bulog, however, has its own constraints in supply chain management, as many of the factors such as demand are so great.

Many private companies, which have a distribution system of rice supply chain management outside Bulog's system (2). These companies are trying to find a market gap beyond Bulog's market share. Many of the innovations the company has made, from the start of production, packaging, promotion, distribution of stable rice supply chains, which may meet market gaps that Bulog can not fulfill (Mohd Yusob, et.al.2015; Adewale, 2016; Abdurashed, 2017; Razak, 2018)

One province in Indonesia, West Java, represents its own market share for rice supply chain companies, with a population of 40 million in West Java, a good transportation system, a special market share to meet it (; Itsnaeny et al, 2011; Adisa et al, 2016). Moreover, West Java to buffer the capital with a population of approximately 10 million inhabitants. So the distribution of rice supply chains between these two regions became a struggle for many parties.

Fulfilling an efficient and effective rice supply chain has been widely investigated, let alone some rice being categorized as rice for the poor (raskin) (Adnan and Ali, 2013), this rice model is very cheap, it is misused by some people, by resale with expensive price. But the government through Bulog, has much work and trying to control the poor rice can be distributed on target for its users (Puteri, 2018; Saeed and Kayani, 2018).



Figure 1. Supply chain operation model, supply-chain council (2007)

Supply chain operation model, seen above picture, many parties have made, model made by supply-chain council, one of the simplest good model, illustrates that planning is one of success, distribution of goods between supplier and customer (The Supply-Chain Operations Reference (SCOR), 2007).

3. Methodology

The methodology used is qualitative descriptive, trying to explore several things including:

- a) To find out how business processes are run in Jatisari in their supply chain activities.
- b) To find out what problems facing the company and how to solve the problem of supply chain activities.

Then transform it into an information system model, like the following:

- a) Information Systems that will be designed is about the process of distributing rice in Jatisari

b) The activities undertaken are the process of distributing rice to the general market or antar.untuk determination of rice prices in Jatisari Karawang itself is determined in accordance with market demand and prices set by the current government.

4. Findings and Argument

4.1 Business Process Analysis

1. Agent Registration

The procedure analyses of the rice management unit of rice jatisari karawang at this time are:

- a. The Agent Candidate requests the agent's registration form into Sales.
- b. Sales provide an agent registration form to the prospective agent and of course the prospective agent has notified the Purchasing party previously.
- c. Prospective agents fill out the Sales and Sales Sales Manager.
- d. Sales receive the agent registration form and then check the completeness that has been received. If accepted, Sales records Agent Data and if it is not accepted then the Sales returns the agent registration form and completeness.
- e. The agent data document is then made available to the Leader to be validated.
- f. After being validated, the two agent data documents are stored in the Jatisari database.
- g. Creating Agent cards from the data in the database jatisari ago sent to the Agent

2. Purchase of Grain at PT. Jatisari Sri Rejeki

The procedure analyses of the rice management unit of rice jatisari karawang at this time are:

- a. The Warehouse creates a Minimum Data Recap from the database and submits the data to the purchase.
- b. Purchases create purchase invoices and purchase receipts about what items will be purchased.
- c. Submit a purchase form that has been made to the Farmer.
- d. If the goods match then the transaction occurred. Farmers provide the grain and goods data (grain) to the purchase and purchase of grain to the warehouse.
- e. The purchase then inputs the purchased grain data into the database and makes recap receipt of the goods.
- f. The warehouse within a certain period of time makes a report of purchases and reports of stock data to be submitted to the leadership.

3. Production

The procedure analyses of the rice management unit of rice jatisari karawang at this time are:

- a. Production makes a recap of grain data about what grain will be produced into rice.
- b. Production undertakes the production process to convert grain into rice and make a list of rice data.
- c. From the list of rice data is then inputted back to the database for the process of updating the rice data.
- d. Within a certain period, Production reports rice data and reports are submitted to warehouses and leaders.

4. Sales

The procedure analyses of the rice management unit of rice jatisari karawang at this time are:

- a. Agent gives data of rice order to Sales
- b. Sales Section checks the order data to the database, if rice is available then transaction occurs and if not available then order data is returned to Agent.
- c. If a transaction occurs, then Sales input sales data and save to the database and print sales invoice and submitted to the Sending Department to make the process of delivery of goods (Distribution)
- d. Within a certain period of time, Sales creates a data report whose data is sourced from the database to be submitted to the Leader.

5. Shipping

The procedure analysis of the rice management unit of rice jatisari karawang at this time are:

The Delivery Section receives a Sales invoice and creates a Roadsheet for the sales data.

- a. Then Delivery sends items accompanied by sales invoices and mails.
- b. Delivered the goods and requested the Agent validation in the mail.
- c. Letters by way of Delivery then submitted to Warehouse and by Warehouse melakukan process change the status of sales.
- d. Within a certain period of time, Delivery creates a delivery data report to be submitted to the Leader

5. Logistics Macro System Analysis

Analysis of macro logistics system is the analysis used in looking for a problem that if can have potential for problems and risio faced in a distribution. Potential logistical problems faced by processing unit of rice grain karawang own i.e.

- Potential problems faced: The low level of accessibility of information on the availability of commodities for the stakeholders resulted in the distribution process is not going well, so there is often a buildup of commodities as well as the vacuum of commodities on the other side.
- Communication problems and coordination in terms of dissemination of information that resulted in the distribution did not go well considered very detrimental to consumers, farmers and all parties involved in the system of supply chain management.
- Recommendations: Some things that need to be done by relevant agencies to maintain price stability and increase rice production include:

Bulog: Improving the effectiveness of market operations conducted by Bulog is not waiting for falling prices but operations are carried out to prevent prices from falling through coordination mechanisms with industry and trade agencies, as well as Provincial Food Security Agency (BKP) in procurement of food in partnership with cooperatives, RMU and traders at the regional level. The effectiveness of this program will be able to stabilize the price of grain at a critical time of high harvest with high rainfall (Perera et al, 2018; Tabor, 2018).

Agriculture Agency and BKP: Empowering farmer groups in rice production centers by strengthening their capital through small-scale RMU ownership and their own dryers, this will reduce the saturation of the grain market. Farmer groups or farmers as producers no longer sell grain but are able to sell rice, the added value of rice will be enjoyed by members of their own group. Thus, rice agribusiness at the farmers’ group level can work well. Farmers can take advantage of mobile RMUs to stimulate farmers to store their grain for family consumption. Farmers can grind their grain at any time in front of the house without any additional transportation costs (Samet, 2018). This resulted in increased food security (rice) at the farm-household level, with grain storage made by each farmer at least 0.5 to 1 ton of GKG, this can reduce the supply of grain during harvest time.

Aspect Analysis of Suppliers and Retailers

Table 1. Suppliers and resellers, create two columns as below

SUPPLIERS	RETAILER
<p>Generally meet or apply standard of technique and process the market structure of grain / rice in Jatisari Karawang is quite competitive. It is characterized by many market participants both in village, sub-district and district level. The distribution pattern has been established supported by adequate infrastructure, the distribution is quite smooth and there are no significant obstacles</p> <p>Overall it has fulfilled Retailer Satisfaction in terms of price or product though there are still shortcomings.</p> <p>The company has a huge production capacity as well as the absorption of large raw materials as well. This is reinforced by the silo (where grain stores) with a capacity of 2,000 tons per silo. Of course, their competitors who still have a small capacity will be less competitive when juxtaposed with production capacity owned Jatisari Karawang.</p>	<p>In general it meets the quality standards of the government.</p> <p>Jatisari Karawang generally meets the quality standard of the government so it has got SNI.</p> <p>This standard aims to anticipate the occurrence of rice quality manipulation in the market, especially mixing / pengoplosan between quality or between varieties. Therefore do some changes or improvements in some parts that is on the part quality requirements, test methods and marking.</p> <p>Overall it has been good but still has some shortcomings</p> <p>The rice industry ideally enters the perfect competition market, where players in it are numerous. This is characterized by the presence of many sellers and many buyers, the goods are produced the same</p>

SUPPLIERS	RETAILER
<p>Potential Difficulty Obtain grain raw material</p> <ul style="list-style-type: none"> • poor grain quality, • If the rainy season then the grain is difficult to obtain due to crop failure. 	<p>(homogeneous) as well as the price is determined by the market (sellers and buyers can not affect the price).</p> <p>Potential Caused Applicable procedure</p> <p>Anticipate the occurrence of rice quality manipulation in the market, especially mixing or pengoplosan between quality or between varieties.</p> <p>Given the risks associated with price fluctuations in the market, which often occur with primary commodities.</p>

Tabel 2. Information system analysis and regulation

INFORMATION SYSTEM	REGULATION
<p>Information systems are inadequate, including the need to:</p> <ul style="list-style-type: none"> • Monitoring of rice stock • Monitoring the flow or distribution of rice <p>Monitoring needs (volume, region, time).</p>	<p>Some Regulations are potentially problematic</p> <p>Not meeting the Indonesian national standard (SNI)</p>
<p>Potential loss:</p> <p>The low level of accessibility of information on the availability of commodities for the stakeholders resulted in the distribution process is not going well, so there is often a buildup of commodities as well as the vacuum of commodities on the other side.</p> <p>Communication problems and coordination in terms of dissemination of information that resulted in the distribution did not go well considered very detrimental to consumers, farmers and all parties involved in the system of supply chain management.</p>	<p>Potential Losses</p> <p>Anticipate the occurrence of rice quality manipulation in the market, especially mixing or pengoplosan between quality or between varieties.</p> <p>Given the risks associated with price fluctuations in the market, which often occur with primary commodities.</p>
<p>Recommendation:</p> <p>The development of technology system in the process of distribution and production to support the work process in Jatisari Karawang so that the production distribution process runs well, making it possible to create a design and manufacture of technology system based on desktop in Jatisari Karawang this so that information produced more accurate and automatic without consuming much time.</p>	<p>Recommendation</p> <p>The development of technology systems in the distribution process and to support the work process in Jatisari Karawang for distribution production process runs well, making it possible to create a design and manufacture of desktop technology based system in Jatisari Karawang this so that the information produced more accurate and automatic without taking a lot of time .</p>

6. Conclusions

PT. Jatisari Sri Rejeki Karawang, probably not the best company in Indonesia, for rice supply chain distribution. But the company has played an important role in the national rice supply chain, using a good standard factory processing method, the company has created rice production that attracts the public's attention, from processing to packaging to distribution chains (Br Karo, 2015; Damanik et al, 2014). The company (Akinyede and Adalakun, 2018) does not mean there is no shortage, the company has struggled to create an effective and efficient rice supply chain system, but in order to provide the best experience for customers, the company tries to make the information technology system better (Darfin, 2014; Fandi and Rais, 2012; Kovács and Kot, 2016).

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