THE EVALUATION OF SUPPLY CHAIN MANAGEMENT
IN VEGETABLES DISTRIBUTION
FROM THE TOURISM CITY OF BATU TO BALIKPAPAN
AND BANJARMASIN CITY

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The purpose of this study was to determine the implementation of Supply Chain Management’s key activities on the vegetables distribution from The Tourism City of Batu to Balikpapan and Banjarmasin City. Key activities undertaken consisted of setting standards of customer service, select modes of transportation and set the load, inventory management, as well as manage information and fulfill orders. The purpose of this study was also to determine the factors that influence the continuity of vegetables distribution from The Tourism City of Batu to Balikpapan and Banjarmasin City. This type of research is qualitative descriptive with case study approach. The results showed that the supply chain management’s key activities was first run when selecting vegetables to be harvested, then continues to the packing process, the vegetables from the fields was taken to the warehouse and packed in such a way to prevent damage and the quality is maintained up to the destination, then vegetables stacked in accordance strength of each to be loaded on a Fuso Truck and not change the quality, until finally ultimately sent to the destination.

Key words: Supply Chain Management, Supply Chain Management’s Key Activities and Vegetables Distribution
INTRODUCTION

Vegetables are one of the important commodity in supporting national food security. These commodities have a broad diversity and serve as a source of carbohydrates, vegetable protein, vitamins, and minerals of high economic value. Indonesian consumption rate in vegetables tends to increase with rising incomes. It is therefore important to know how the course of distribution of vegetables in some areas in Indonesia.

This study aimed to investigate how the application of supply chain management in the vegetables distribution, as well as the problems that exist in the distribution of vegetables. Supply chain management is composed of four key activities, including setting standards of customer service, select modes of transportation and set the load, inventory management, as well as manage information and fulfill orders. If the key activities run properly, it will be a positive influence on the continuity of distribution.

The purpose of this study was to determine the application of supply chain management in the distribution of vegetables, as well as the problems that exist in the distribution of vegetables. Several theories relating to the distribution of vegetables was also appointed to deepen the discussion on this research. The theory used include Operations Management, Supply Chain Management and Supply Chain Management Key Activities.
RESEARCH METHODS

This study used a qualitative descriptive research with case study approach on vegetable traders in big market of The Tourism City of Batu which sent vegetables to Balikpapan and Banjarmasin City. This research was conducted in Sisir Village, The Tourism City of Batu.

The data collected for this study is divided into two data, that is primary and secondary data. Primary data is data obtained directly from the source, was observed and recorded for the first time, namely from vegetable traders in big market of The Tourism City of Batu. While secondary data is data that’s obtained indirectly, namely in the form of data monograph or profile big market of The Tourism City of Batu, data from the Department of Trade and Industry The Tourism City of Batu, an article from the internet, journals and books on the theory of supply chain management as well as on delivery fresh product.

DISCUSSION

Supply chain management was first run when selecting vegetables to be harvested. In the process of harvesting encountered selecting activity to obtain the best quality of the vegetables, because vegetables are desired course different from the vegetables sold in traditional markets in Batu, Malang and surrounding areas. Vegetables should have a large size and have high durability. Because merchants have some consumers, so traders determine who its customers and the quality of vegetables like what will be given. Vegetables that do not qualify for the sorting process will not be sent to the outer islands, but will be sold in its own area.
Supply chain management activities continue into the packing process, the vegetables from the fields was taken to the warehouse and packed in such a way that is not damaged and the quality is maintained up to the City of Balikpapan and Banjarmasin. Because the vegetables will have a long journey, for almost 3-4 days. Some other vegetables are still experiencing the drying process with aerated for 1-2 days or dried using a blower, because the vegetables to be sent must be completely dry, so as not to foul.

Vegetables are already packed and ready to send loaded into the Fuso Truck. Supply chain management activities are still carried out here. Vegetables stacked in accordance strength of each to be loaded much Fuso Trucks and unchanged quality. Vegetables were eventually sent to the City of Balikpapan and Banjarmasin by land, sea and then finally ground again.

**Supply Chain Management Key Activities**

**Setting standards of customer service**

At this stage performed by the producer is to determine who the customers to be served and the quality of vegetables such as what will be given. The producers made several criteria to make it easier to determine the consumers. Each type of consumer would get different services, ranging from quality vegetables such as what will be provided and how the form of packaging.

Producers have 3 costumer, the first costumer, the producer will provide a high priority. Because they have a big order. Producers will bring vegetables with the best quality of some potential areas such as Junggo, Sumberejo and Pujon, even manufacturers are also venturing into other areas outside Batu like Tengger, Bromo and Nongkojajar. For first costumers, given vegetable is a “super”
vegetable with a large size. Form of packaging is done in order vegetables of the first consumer is able to load the sacks up to 60 kg of vegetables, containing 60-70 kg crates for vegetables and packaging in the form of a thick cardboard if needed.

For the second costumer, even if they do not have the first orders of costumers, but they also still get priority from the producer. Given the quality of the vegetables that consumers are not much different from the first costumers, usually only differ from a slightly smaller size. Producers have done a careful sorting of the size of the vegetables to be supplied. Form of packaging is done on the orders of vegetables from the second consumer is to load sacks of 40 kg of vegetables and crates to load 30-40 kg of vegetables.

For the last costumer, usually producers have set up their own vegetables such as what will be given. After doing the sorting for the vegetables to be delivered to Balikpapan and Banjarmasin, they leaving some vegetable to last consumers. Because it is only for sale around Malang so consumers do not need a vegetable "super", but the quality remains unnoticed. Producers also do not need good packagin, because it is usually only provided a basket or crate or sack.

**Select modes of transportation and set the load**

Delivery of vegetables using double transportation. Vegetables from fields were taken by pickup truck to the warehouse, then do some treatment and sorting, then the vegetables which are ready immediately packed and loaded onto a Fuso Truck. But, there also were taken directly to the small truck from the warehouse to the port. Then unloaded and loaded again into the Fuso Truck, hereinafter Fuso trucks carrying cargo to the port of Tanjung Perak. From the port of Tanjung
Perak vegetable cargo is carried by sea to arrive at the port of Balikpapan and Banjarmasin City. Then from the port resumed using landline and taken to their respective markets.

There are three alternative modes of transportation on this distribution of vegetable, which Fuso Trucks, ordinary trucks and pick ups. Factors that determine the choice of transport mode is how the amount of charge that can be brought, the speed and cost of transportation. Some of those factors into consideration traders. For more details can be seen in the following table:

**Table 1**

**Mode of Transportation and Costs**

<table>
<thead>
<tr>
<th>NO</th>
<th>MODE OF TRANSPORTATION</th>
<th>TOTAL LOAD</th>
<th>SPEED</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fuso Trucks</td>
<td>20-25 ton</td>
<td>Low</td>
<td>Rp.1.200-1.300 /kg</td>
</tr>
<tr>
<td>2</td>
<td>Ordinary Trucks</td>
<td>10 ton</td>
<td>Middle</td>
<td>Rp.800-900 /kg</td>
</tr>
<tr>
<td>3</td>
<td>Pick Ups</td>
<td>2-3 ton</td>
<td>High</td>
<td>Rp.750 /kg</td>
</tr>
</tbody>
</table>

Source: Data processed

At this stage, the traders choose to use third-party logistics services or third party logistics (3PL). Third-party logistics is the term used for the management of logistics outsourcing. Firms shift to a distribution company that specializes in this field. The benefits of doing so is taking advantage of specialist knowledge, their information systems are developed and their ability to obtain a more favorable shipping rates, as well as giving the company to focus more on their core business.
After choose the mode of transport, the next step is to load the vegetables. For loading vegetables into a mode of transportation required special skills, usually for truck transport modes, but no problem to pick up. For this step, need employees who have experienced many years in these activities. Because the vegetables will be loaded in a state reams from The Tourism City of Batu to Balikpapan and Banjarmasin City, when stacked in the wrong way will be damaged if it reached to the destination. These vegetables are stacked based on their respective powers, the employees had its own reasons about which is more strong vegetables and easily damaged vegetables.

Vegetables should also be arranged such that the cargo belonged to a merchant with other traders indistinguishable. Typically in each sack or crate given letter or sign cargo owners. If the charge is not exactly setting the charge-owned merchants with merchants other one could be confused. Vegetables belonging to traders who are better prepared to be loaded first vegetable, for others to follow. To order a pile of vegetables can be seen in the following table:

**Table 2**

<table>
<thead>
<tr>
<th>NO</th>
<th>VEGETABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Potato</td>
</tr>
<tr>
<td>2</td>
<td>Carrots</td>
</tr>
<tr>
<td>3</td>
<td>Squash</td>
</tr>
<tr>
<td>4</td>
<td>Tomatoes</td>
</tr>
<tr>
<td>5</td>
<td>Spring Onion</td>
</tr>
<tr>
<td>6</td>
<td>Cabbage</td>
</tr>
</tbody>
</table>
Inventory Management

Basically traders determine the amount of inventory based on the principle of just-in-time, which is a highly coordinated processing system in which goods and services move through the system performed just when it is needed. Traders use the principle of just-in-time to determine the inventory for almost all vegetables, namely tomatoes, squash, carrots, cabbage, cauliflower, spring onion and mustard.

They think it is better to provide supplies only when there is order, because the vegetables easily damage then it would be better if the vegetables are harvested directly processed and shipped, without having made the inventory in the warehouse. Vegetables are easily damaged properties. If traders provide stock in the warehouse, traders should use some sophisticated equipment to maintain the freshness of the vegetables and avoid vegetables from rottenness.

Unlike other vegetables, there is an exception for potatoes. Because this type is considered the most prestige vegetables (because its price tends to be expensive) and have a high level of resistance. Traders determine the amount of inventory of potatoes based on the weather in the months of the rainy season and dry season, they also determine the amount of inventory based on the height of the market such as the current month of Ramadhan and Eid Hajj season.
Manage Information and Fulfill Orders

Supply chain management showed the interdependence among the stakeholders that are bound in a business system. In the distribution of vegetables, which are bound in business systems, namely vegetable traders from The Tourism City of Batu, farmers, shipping companies and costumer (collectors/traders of vegetables in Balikpapan and Banjarmasin City). In this case there are three streams of entities that should be managed properly, the flow of products (vegetables) and services, cash flow, and the flow of the document (the letter, vegetables note and cost of transportation).

The first information came from the shipping company, they transmit the information to the traders about ship's departure schedule from Surabaya to Balikpapan and Banjarmasin, the allocation of total load, transportation costs and the limit of taking load. This information usually come 2 times in the week, so traders will send the vegetables to costumers two times a week.

After getting information from the shipping company, the trader contact the costumer to ask the orders of vegetables, any kind of vegetables desired, latest prices of vegetables and the total load is needed. Then costumers mention what kind of vegetables to be delivered, the ability to be the price of vegetables and the total load is needed.

Then traders contacted the farmer to order vegetables needed. If already met an agreement then the farmers send vegetables to warehouse orders. In warehouses, traders do sort back and do the packaging on vegetables that are ready for sorting. Then the vegetables are packed ready for shipment. Vegetables are prepared to be loaded by the shipping company delivery.
After the specified time arrives, the Fuso Truck from shipping companies came to the warehouse or to the market to load vegetables. Vegetables are equipped with a note from traders. Then the vegetables are transported to the port and finally reach to the costumer. Once received by consumers notes vegetables adjusted by the total load of vegetables and vegetables that’s come. If appropriate, the costumer pays the transport costs to the shipping company.

**The problems that exist in the distribution of vegetables**

1. **Damaged vegetables**

   On the distribution of vegetables from The Tourism City of Batu to Balikpapan and Banjarmasin City often occurs damage vegetables, many causes of damage vegetables. Vegetables are easily to damage due to temperature changes of the current harvested, packed and transported, the transmission of the decay of one vegetable to the other vegetables, as well as improper handling of cargo, such as vegetables wrong buildup and demolition carried out roughly. To avoid damage to the vegetables is required special attention from traders.

2. **Loss of load**

   This is about weak supervision, both from traders, expedition service providers and costumer. Problems caused by the loss of load irresponsible to commit theft while dismantling vegetables, does this incident not experienced traders continuously, but only when the vegetable prices are high. However, it is detrimental to third parties, traders suffered losses of vegetables, expedition service providers need to replace the
delivery, although not 100%, and customers cannot get vegetables in accordance with the desired amount.

3. Late arrival of vegetables

Another problem that arises in the distribution of vegetables from The Touris City of Batu to Balikpapan and Banjarmasin City are late arrival of vegetables. The vegetables should arrive no more than 3 days. Many factors led to the late arrival, ranging from delays in loading vegetables, long queues of vehicles at the port, high waves and the occurrence of an accident or vehicle broke down. Bad weather or high waves cannot be avoided, because it is the power of Allah SWT. But for other problems can be avoided.

4. The extortion at the port gate

The last problem is the extortion at port gate. It is open secret if the performance of ports in Indonesia was still low, as well as human resources. Operator in the port gate often ask money to the driver that coming into the port, the cost is beyond the mandatory administrative costs. The government must immediately relieve activity such as this, so users do not feel disadvantaged about port services.

CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the results obtained from studies conducted on the distribution of vegetables there are several conclusions that can be drawn, that is:

1. Supply chain management that is run between the companies differ in scope, depending on each organizational structure, a difference opinion
about the importance of the supply chain to the business itself and the importance of individual activities for the operations.

2. Traders run supply chain management’s key activities ranging from setting standards of customer service, choose the mode of transport and organize load in the truck, determine stocking policies and manage information.

3. Traders determine consumer service standards by making several criteria to make it easier to determine who the consumers. Each type of consumer would get different services, ranging from the quality of vegetables such as what will be provided and how the form of vegetable packing.

4. Distribution of vegetables from The Tourism City of Batu to Balikpapan and Banjarmasin City have several choices in modes of transport. There are three alternative modes of transportation, that is Fuso Trucks, Ordinary Trucks and Pick Ups.

5. Basically, the traders determines the amount of inventory is based on the principle of just-in-time. Traders use the principle of just-in-time to determine the inventory on almost all vegetables, except potatoes.

6. Traders managing information on the distribution of vegetables. There are four parties who have and need information, thats traders, farmers, shipping companies and customer.

**Suggestions**

Based on the results of research and discussion, the authors would like to give some suggestions, namely:

1. Traders should running well key activities of supply chain management, without forgetting the supporting activity. Because it can help traders to
eliminate the barriers that exist in the distribution of vegetables from The Tourism City of Batu to Balikpapan and Banjarmasin City.

2. Market research needs to be done on a regular basis to know the needs of customer and segmentation of customer.

3. Good relationships with farmers, freight forwarders and costumers must be maintained properly. Due to the continuity of distribution trader can not move alone.

4. Traders need to give best services such as the supply of vegetables whenever necessary, fast and fit delivery time and ease of administration.

BIBLIOGRAPHY


