Supply Chain Management to Optimize One Stop Fish Trading

Rina Fiati, Anastasya Latubessy
Department of Informatics Engineering, Universitas Muria Kudus
rina.fiati@umk.ac.id

Abstract. One of the functions of the supply chain system is to provide the right products and services, at the right place, at the right time, and at the desired conditions by still providing optimal contribution to the company. Supply Chain Management is the management of various activities in order to obtain raw materials, followed by transformation activities so that they become products in the process, then become finished products and forwarded to delivery to consumers through the distribution system. The purpose of this study is to improve the welfare of fishermen as fish producers in order to be given equal opportunities in competing to get consumers directly, as well as to provide convenience to consumers who buy fish in accessing information on the location of fish marketing institutions and the selling price of fish. The fish marketing system that has been going on so far have to pass several stages. With such marketing system, consumers do not buy directly from producers. This can be caused by a lack of consumer information on the location and location of fish producers in their environment. By purchasing directly from producers, it can also increase the economy of fishermen as fish producers. Based on this reason, this research creates a model to cut the supply chain of fish sales distribution. The method used is the Supply Chain Operation Reference (SCOR) model and rule based and action Research. The result of this study is the use of the Supply Chain Management model in the One Stop Fish Marketing Information System, which is expected that fishermen will have their own target markets that can directly buy fish from fishermen as the main producers of fish.

1. Introduction
Indonesia is well known as a maritime country with abundant sea production. The commodity sea production is used as one of its income source which helps its economy. Figure 1 is a map of fish potential in Indonesian waters which is taken from the Department of Marine and Fishery. Based on the fish potential spread figure in Indonesian waters it can be seen that Indonesia has an amazing fish potential.
Therefore, Indonesian Government gives much attention on policies and actions related to the Indonesian waters. The government policy is not only to improve the results of sea production and sea safety, but it also needs to pay attention on the fishermen’s welfare as a spearhead in the fishery sector.

Meanwhile some related supply chain management research, such as the one which was done by Geraldine. L.H., et al. [1], they conducted a study on risk management and action mitigasi to create a robust supply chain. This research conducted an analysis and risk evaluation that could potentially arise in a supply chain.

On the other hand, Parvati, i. and Andrianto, p. [2] conducted a study by using supply chain management method to analyze the bullwhip effect to enhance the effectiveness of the distribution system of the products. It is mentioned that one of the obstacles that is still often encountered in product distribution system is the existence of the phenomenon of Bullwhip Effect that is far deviation between stock with demand.

Supply chain management can be used in various cases of distribution of products. One of study conducted by Wuwung, S.C. [3] explained that supply chain management is a system that involves the production, delivery, storage, distribution and sales of products in order to meet the demand for the product supply chain including all the processes and activities that are involved in the delivery of the products to consumers. The study found that management supply chain of farmers still use barter method with initial funds given to the farmers, then it is used in the form of fertilizor, paras, consumption and fuel. When the farmers have got the results of their farm then they give them to the plantation owner with a low price and then sell it back to the collector in Manado with high prices.

Marketing is a managerial process conducted by an individual or groups in getting their needs and wants by making and exchanging products and value with others [4][5] states that marketing is an activity to market goods or services to society. Marketing activities start from doing observations of consumer’s needs. Some related research such as the one which was conducted by, Dalimunthe, [6] who did an analysis on market and ornamental fish marketing system in Bogor city explains that there are twelve fish marketing channels in Bogor city. Because of that, it causes a lot of competition in the marketing of the ornamental fish. It is suggested in this study that it is required a standardization of price, cost, type, quality, and an accurate information market obtained by group of farmers.
2. Research Method

Several stages in this research were identification and modelling. At the identification stage, it was carried out the identification and formulation of the problem and the collection of data related to the object of the research. At this stage, study of related literature of a variety of references as well as review to the previous research were also done. In addition this research also did a field study to selling places and selling centre fish. The next step was supply chain modelling done by using SCOR model.

3. Result

SCOR model for analysing supply chain which is currently used is shown in Figure 2, in which the flowchart of fish selling starts from fishermen, broker, wholesalers, and retailer to consumers. There are many channels that should be passed to make the fish come to consumers.

![SCOR model for analysing supply chain Selling Fish](image)

**Figure 2.** Analysis of image Model SCOR supply chain Selling Fish at this time
Figure 3. Analysis of the Supply Chain SCOR Model of Fish Sales

Figure 3 shows that there are several chains that are cut out of the system that is running at the moment. Figure 4 shows the system offered, in which all activities can be done by the fishermen. Consumers can buy directly from the fishermen.

Figure 4. Analysis of the Supply chain SCOR Model of Fish Sales
4. Conclusion
By having one stop fish sales system, it can improve the fishermens’ income. If the system is applied, it can also pressure consumers about the selling price without harming the fishermen. One obstacle in applying this system is brokers (the intermediary traders) and the fish collector who will oppose the implementation of the system. Therefore, it needs to look for a way to cover all parties without damaging one party.

References
[1] L. H. Geraldin, I. N. Pujawan, and D. S. Dewi, “Manajemen risiko dan aksi mitigasi untuk menciptakan rantai pasok yang robust,” J. Teknol. Dan Rekayasa Tek. Sipil TORSI, vol. 2007, pp. 53–64, 2007.
[2] I. Parwati and P. Andrianto, “Metode supply chain management untuk menganalisis bullwhip effect guna meningkatkan efektivitas sistem distribusi produk,” J. Teknol. IST AKPRIND, vol. 2, 2009.
[3] S. C. Wuwung, “Manajemen Rantai Pasokan Produk Cengkeh Pada Desa Wawona Minahasa Selatan,” J. EMBA J. Ris. Ekon. Manaj. Bisnis Dan Akunt., vol. 1, no. 3, 2013.
[4] Kotler and Armstrong, Principle of Marketing. Ninth Edition. Prentice-Hall, Inc., Homewood, New Jersey, USA, 2000.
[5] Ma’ruf, Pemasaran Ritel, Penerbit PT Gramedia Pustaka Utama, Jakarta, 2006.
[6] S.Q. Dalimunthe, Analisa Integrasi Pasar dan Sistem Pemasaran Ikan Hias Yang Melalui dan Yang Tidak Melalui Terminal Agribisnis (Holding Ground), Rancamaya, Kotamadya Bogor, Skripsi, Program Sarjana Ekstensi Manajemen Agribisnis, Fakultas Pertanian, Institut Pertanian Bogor, 2006.