

IMPACT OF LEAN AND AGILE SUPPLY CHAIN INDONESIA COFFEE TO SUSTAINABILITY STRATEGY MEDIATES BUSINESS STRATEGY

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Abstract

This paper aims to investigate sustainability strategy coffee processing industry companies in Indonesia and methods and goals associated with a different concept with the concept of developing management. This research to analyze the use of strategy lean and agile supply chain of Indonesian coffee's product's impact to business strategy and sustainability strategy and to maintain the Indonesian coffee plant to survive in the long term sustainable development. Indonesian coffee has a special uniqueness that is only available in Indonesia. The paper is based on a review of literature, both journal articles and books, and the result of observation on the coffee processing companies and farmers, and proposed a conceptual model. The cooperation between the manufacturer and buyer with the involvement of a partner stakeholder in the supply chain become a consideration as the focus of the company in managing their core competence and all other activities of outsourcing. Companies have made tough decisions about what and how operations, they must execute well and then applied. The data obtained from interviews and observed the 6 SME's and 38 farmers in West Java. From these observations, furthermore, a positive relation is found between the use of lean and agile supply chain to the business strategy and then affect Indonesian coffee industry sustainability strategy.

Keywords: Lean Supply Chain, Agile Supply Chain, Business Strategy, Sustainability Strategy

INTRODUCTION

Indonesian coffee producers in the face turbulence competition, some issues are: the availability of raw materials, natural conditions and weather, continuous change, price, rapid response, quality improvement, and social responsibility Is the prime mover in the industry coffee Indonesia experienced farmers, coffee processing producer and distributor and retailer.

A supply chain is a network consisting of suppliers, manufacturers, distributors, retailers, and customers (Herer, et al, 2002)

The amount of the area of the gardens, coffee Indonesia total 1.241.712 ha (DirJen Perkebunan, Kementerian Pertanian, 2015) is placing the coffee industry in Indonesia is in the sequence of the four after Brazil, Colombia, and Vietnam. The coffee

plantation area of Indonesia has geographic advantages that spread around the equator. Indonesia with the comparative advantages and competitive advantages that owned must be able to maintain the sustainability of the coffee industry.

Indonesia has the competitive advantages and benefits of comparative advantages is the area of the coffee farms is in almost all the regions of the country that stretches at the equator. Another advantage is of labor in the coffee industry is available in a large number of the number of farmers who cultivate the vineyard coffee totaled 1.341.053 head of the family. The competitiveness of Indonesian coffee products in the world and in the ASEAN, is still low compared to competitors such as Brazil and Vietnam. The competitiveness and boost the expansion of high

enough to go into the market outside of the land is still hindered by the quality of the product that is not stable is not consistent and has not been certified international and national. The coffee industry competitors currently known to have a very high level of efficiencies and a high level of productivity. In domestic market Indonesia becomes loss the competitiveness, especially from the side of the price when compared with the coffee product imports from Vietnam. Import coffee from Vietnam has spillover effects to the coffee processing industry in Indonesia. The competitiveness of not only correlates with economic and social aspects only. But also, depends on the ability of the company to increase the performance of the leading strategic dimension such as cost, quality, shipping, speed, innovation, and versatility (Platts & Gregory:1991)

The sustainability of the production of coffee from the coffee plantation to threatened processing slowed. There are benefits of nature that belongs to Indonesia for the structure of the ground coffee farms consists of various types of follow planting areas. Indonesia still has the opportunity to increase the production of coffee through intensification and the expansion of the coffee farm area. In Indonesia is still a lot of forest land is managed by Perhutani. The land can be made with coffee land cropping system. Such as in West Java, Perhutani gives an opportunity to the coffee farmers to use state forest land to become coffee farms.

The coffee trade chain the simplest is from farmers as producer of coffee beans are sold to the tradesmen were brought in a small amount of collector, then traders sell collector to a huge seller and from the huge seller sold to small coffee or coffee exporter. The level of the smooth transportation influenced generally coffee trading pattern mainly in remote areas. Areas with enough transportation smoothly the existence of merchant's small collector decreases and prolonged periods farmers directly to the huge seller. The coffee is exported commodities because around 60 percent of the total national coffee production is exported and the rest consumed and stored by the merchants and exporters as a backup when there was a crop failure. The consequence of the vast number of coffee exported is the dependence on the situation and the condition of the world coffee market.

Effective supply chain strategies combine a range of approaches from operational flexibility (e.g., postponement, assemble-to-order (ATO), make-to-order (MTO), and lead time (LT) reduction), channel alignment (e.g., contracts, Vendor-Managed Inventories (VMI), and Efficient Consumer Response initiatives (ECR)), and joint decision making through information deployment (e.g., Point of Sale (POS) data, Collaborative Planning Forecasting and Replenishment (CPFR), and schedule sharing). (Herer, et al, 2002)

Supply chain performance entails a trade-off between cost and service. (Herer, et al, 2002). In the concept of agility manufacturing there a basic ability that is sensing, perceiving and anticipating changes in the business environment of the company. (H. Sharix & Z. Zhang, 1999)

In the International Coffee Agreement 2001 agreed on the name and form of internationally traded coffee is as follows: 1. Green Coffee is the coffee that peeled and unroasted. 2. Dried coffee cherries are the fruit of the coffee from the tree that has been dried. 3. Parchment coffee (coffee with skin horns) is green coffee bean that still have skin horns. 4. Roasted coffee is green coffee beans that have been roasting with a certain heat level. 5. Decaffeinated coffee is green coffee or coffee that is nut or coffee that can be diluted with the contents of the coffee is extracted. 6. Liquid coffee is the form of coffee already nut that changed shape to liquid form with water. 7. Soluble coffee is coffee that comes from the roasted coffee was formed as a solid can be disbursed with water (a kind of instant coffee). During the coffee fruit processing is known as the two ways are dry process and wet process, the difference between the two ways the coffee fruit processing lies in the existence of the use of water that is required for stripping the skin of the fruit of the coffee and washing the coffee beans.

LITERATURE REVIEW

Lean Supply Chain

The growth of the issue of increasing the number of chain strategy, prioritize meeting modern is the new opportunities for the improvement of the supply chain. The use of the approach of Lean supply chain is one of the strategies that can be competitive

advantages of the company. Lean supply chain focus on optimization of the process of all the supply chain seek simplification, reduce waste and reduce the activities that do not add value. (Machado&Duarte,2010; Maia et al, 2013)

Naylor et al. (1999) Leanness is developing a value stream to eliminate all waste, including time, and to ensure a level schedule.

Agile Supply Chain

The main key of agile supply chain is flexibility. According to Naylor et al. (1999) as follows: Agile means using market knowledge and virtual corporations to take advantage of the lucrative opportunities in the market that is not stable. Agility means using market knowledge and a virtual corporation to exploit profitable opportunities in a volatile market place.

A market-responsive or agile supply chain is required for innovative products since the uncertain market demand increases the risk of shortages and excess supplies. While high profit margins and the importance of early sales in establishing market share for new product increase the cost of shortages, short life cycles increase the risk of obsolescence, hence the cost of excess supplies. Market mediation costs, therefore dominate physical costs for such products. (Herer, et al, 2002).

Agility in concept comprises two main factors.: (1) Responding to change (anticipated or unexpected) in proper ways and due time. (2) Exploiting changes and taking advantage of them as opportunities. (H. Sharix, Z. Zhang, 1999)

The driver of agility is change. Agility drivers consist of customer requirement competition criteria market technological innovation. (C.T. Lin et al, 2006).

Business Strategy

Business Strategy can be described as companies face the business environment (Grant Robert, 2002). The choice of the strategy adopted by the company is the company ability to adapt to the business environment.

Sustainability Strategy

The superiority of Indonesia coffee does not follow with the coffee processing industry development to encourage the sustainability of the coffee industry in Indonesia. The development of sustainable coffee plantation must be able reserves to receiving complain welfare of the farmers'. Welfare improvement can be achieved by meeting the needs of food, clothing, housing, transportation, health and education through the use of efficient resources.

Optimal utilization of natural resources owned will help the sustainability of an industry that deal directly with nature. The use of the minimum resources to obtain maximum results will support the sustainability of the coffee industry.

Based on the observation in coffee farms managed by the farmer groups in the Mountain Puntang, West Java. Sustainability industry coffee Indonesia is determined by the ability of the first farmers' coffee processing the results of the coffee farms to meet the needs of farmers and their families, if not, coffee farms, land will be reduced because farmers who failed to meet the needs of life will sell his coffee farms and the impact on the amount of coffee farms land decreases. Second, the support of the government by allowing the government land to become coffee farms, so that the land increased coffee farms. Third, the ability to process the coffee products become a product that has competed in the market will support the sustainability of the industry. Fourth, the use of technology in the market products. Fifth, farmers and coffee producers following the exhibition in the land and in the international market. Sixth, in cooperation with the perpetrators of the coffee industry to shorten the supply chain coffee to end users.

In the West Java provincial government provides an opportunity for farmers to plant trees coffee in Perhutani land. The cooperation program of the government and the farmers using the system for the results of the 15% to 20% to Perhutani as owner of land that made the area of coffee farms and 85% or 80% from the harvest will become the property of the farmer management of the vineyard. Land on the slopes of Mount Puntang originally started to damaged and then planted tree coffee with the intent

to reforest the area. With natural factor, tree seeds, coffee, organic, plant, harvest coffee cherries right mature and processing right to roasted coffee ready to drink to increase the welfare of the mountain Puntang farmers and family.

The concept of sustainable development represents an attempt to reconcile or establish a balance among economic, social, and environmental factors.

RESULTS

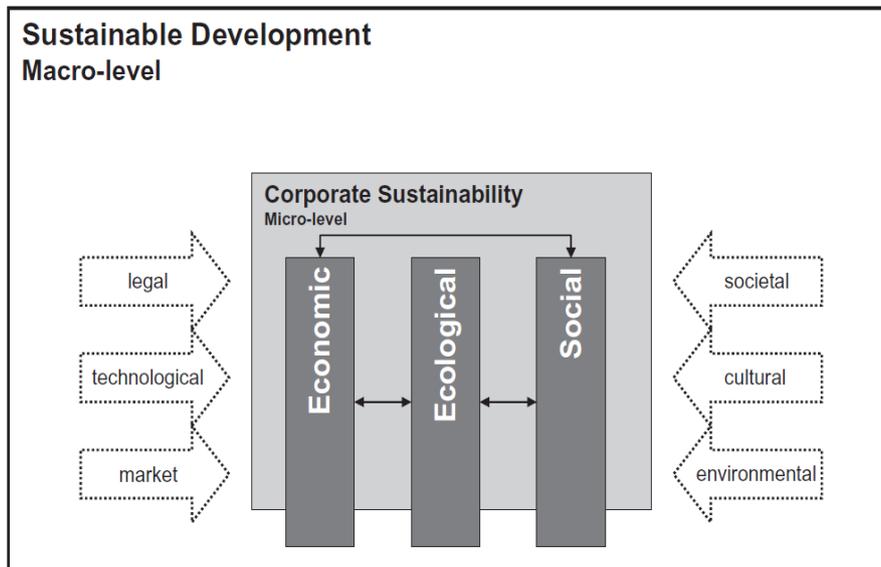


Figure 1. Corporate sustainability and its interdependences (based on the work of Ebner and Baumgartner (2006), p. 13)

Impact of Lean Supply Chain and Agile Supply Chain to business strategy

Lean supply chain will work optimally when the quantity of coffee request known with certainty and routine orders from the customer is already scheduled. Agile supply chain Responding to the market demand or the subscriber that the amount of coffee product request is not fixed or fluctuate. Both the strategic supply chain requires a different business strategy.

Supply chain agility is a crucial factor at the strategic level. The company needs to realize that agility is important for operational continuity and competitiveness. To achieve the competitive edge in the market especially the global market, company with suppliers (are expected to farmers not gatherers or broker) and the customer running the operation of

the lean and work together to achieve the level of agility outside the reach of the normal capabilities.

Impact of business strategy to Sustainability Strategy

The ecological challenges faced by all the organization require the company to formulate a strategy that can preserve and maintain natural resources and pollution control. (Fred R. David, 2004). Manage while regard the environment requires understanding how the international trade, competition, and global resources relate to one another. Product Design, manufacturing and waste management that supports the sustainability of an industry which is related to the nature will increase the good relationship with customers and executive in the industry.

Companies identify aspects of business activities that have a significant impact on

sustainability issues (as labor practices, energy consumption and the diversity of labor), then formulate a strategy of sustainability that includes the company, values and purposes of commitment. Determine a strategy of sustainability is complex, especially for companies that operate globally. Functional business strategy oriented toward the functions of the selected management activities and assigned by the company to support the sustainability of the company.

Points of Observation

In observation researcher in the area of the coffee farms, Ciwidey, Pengalengan and Lembang in West Java found some issue are:

1. Processing capability from coffee farms, care frequented coffee trees to harvest the fruit of the coffee, not all coffee farmers know and do according to the standard coffee processing for export. This situation is triggered by some factor that is limited knowledge smallholders, limited funding maintenance, awareness will avoid non-value added if not learned red, because there will be the sort activities to separate the coffee fruit mature and red with the fruit of the coffee is still not mature.
2. Almost all the farmers directly sell in the form of cheery coffee to broker. Coffee farmers in three areas observation more sold in the form of coffee cherry at the price of Rp6.000 up to Rp8.000 per kg to gatherers.
3. From 38 farmers that has plantation over 10 ha, there are 6 farmers who do the processing from the coffee from cherry coffee until crumbly parchment skin of coffee to green bean.
4. Tools and equipment processing process that is owned by 6 farmers who perform advanced processing, still in a level that is simple and less sufficient to have an impact on the result of the product that has many defects. The example on a farmer in Lembang, from the harvest 1000 kg after

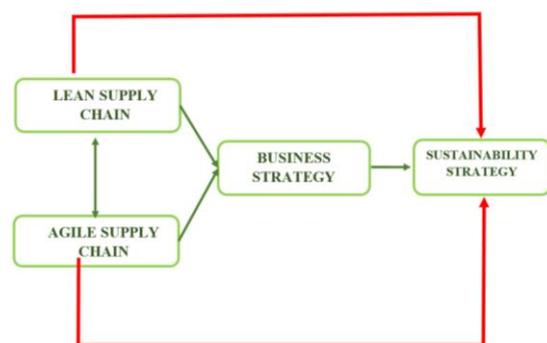
sort the beginning of the fruit of the cheery coffee can be processed information only about 75 kg. The current situation this will have an impact on the outbreak cost workers' seasonal and thus will suffer loss. The impact on the environment directly is the use of the source of excessive force and not to increase the benefits of farmers and thus financial ability will drop and if forwarded the ability to take care of the coffee trees will be reduced and then resulted in the harvest will be low.

5. Farmers who became the source of this research generally do not have the roasting coffee machine, that can add value added and the selling price of coffee.
6. Not yet empowered coffee farms and coffee processing become tourist activities that will increase the production of the coffee farmers.

The peasant farmers still focus as tenants' coffee farms. Around 85% smallholders make this profession as a marginal work.

CONCEPTUAL MODEL

Based on a study of the previous research, researchers asking research paradigm as follows:



SUGGESTION FOR THE FUTURE RESEARCH

For further researchers suggested doing research by collecting data and analyzed statistically, because this research is still in the form of research literature to obtain the results of research through data processing to test the hypothesis that proposed in the research model.

CONCLUSION

This study aimed

To achieve the competitive edge in the market, especially the global market, the company with the supplier and the customer running the operation of the slim and work together to achieve the level of agility outside the reach of the normal capabilities.

Cooperation between the association of the government, farmers and coffee processing industry will achieve the sustainability of the coffee industry in Indonesia by applying lean supply chain and agile supply chain will achieve a short time supply chain, crops of high-value and the environment will be preserved for a long period of time.

Researchers suggested through this research to maintain the sustainability of the coffee industry in Indonesia is expected to apply the concept of "from crop to cup" to cut off the supply chain for shortening the supply chain coffee industry.

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