

A Study On Primary Value Chain Activities Of Rice Enterprises In South Dagon Industrial Zone

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Abstract

The objective of the study is to explore the primary value chain activities of three rice enterprise in South Dagon Industrial Zone. They are for inbound logistic process, Mya Tha Zin Aung and Than Myit Tar rice enterprises mainly focus on cost and quality of raw material. Shin enterprise focuses on cost of raw material. For operation process, Mya Tha Zin Aung and Shin rice enterprises use wet polisher to increase the quality of rice. Than Myit Tar rice enterprise used rubber roller machine to separate head rice and broken rice. Mya Tha Zin Aung and Than Myit Tar rice enterprises used corrective maintenance method. Shin enterprise used preventive maintenance method. Mya Tha Zin Aung and Shin enterprise used preventive maintenance method. Mya Tha Zin Aung and Shin enterprises test head rice with 70 CC standards. Than Myit Tar enterprise tested their product quality by using empirical testing. Concerning outbound logistics, three rice enterprises used only Lorries to distribute head rice. By viewing, marketing and sale activities, three rice enterprises set price of their products imposed by the government. These enterprises offer quality discount and use from zero-level to two-level distribution channel to distribute their products. After selling its products to market, rice enterprise replace them with new bags within three days. Findings also provide the possible suggestions for the obtaining competitive advantages by understanding the linkage between the primary value chain activities for rice enterprises.

Key words : Value chain activities, competitive advantage.

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1. Introduction

In Myanmar, rice enterprises have lack of knowledge about the value chain practices. Especially, they are weak in co-operation with other businesses concerning the value chain. Besides, the individual rice enterprises put less effort to achieve competitive advantage by doing value chain activities, the process of buying raw materials coveting them into final products, marketing them and servicing them.

Today competitive business environment, the most important aspect for every business is to achieve competitive advantages. To achieve it, every business must have unique resources and core competencies. Strategic capability is one of the resources and competences of an organization needed for it to survive and prosper. Unique resources are the resources that underpin competitive advantage and are difficult for competitors to imitate or obtain them. Core competence is a kind of activity that underpin competitive advantage and is quite difficult for competitors to imitate them.

Therefore, if businesses want to achieve competitive advantages by valuing the customers, managers need to understand which activities they undertake are especially important in creating that value and which are not. Value chain concepts can be helpful in understanding this. The value chain describes the categories of activities within and around an organization, which create products or services together. Although the rice enterprises can get competitive advantage by using value chain analysis, little empirical study has been practiced in today marketplace. Therefore, the present study aims to focus on primary activities in value chain analysis of rice enterprises in Yangon.

1.1 Objective of the Study

The objective of the study is to explore primary value chain activities of rice enterprises in South Dagon Industrial Zone.

1.2 Methodology and Scope

The descriptive survey method is used in this study. For that, the primary and secondary data are collected. Primary data are collected from the selected companies by using structured questionnaires. The secondary data are collected by the annual report issued by the Ministry and Department concerned with rice enterprises. According to previous researches and related theories, library research also conducted.

The rice industry is increasing in Myanmar because rice is main food for Myanmar people and it can be exported. Yangon, Ayeyarwady, Bago and Sagaing divisions are highly productive areas of rice in Myanmar. This study focuses on the rice industry in Yangon Division. Hlaing Thar Yar, Shwe Pyi Thar, South Dagon and Shwe Lin Ban industrial zones are located in Yangon Division. According to time and cost constraint, South Dagon Industrial Zone was chosen to study. South Dagon Industrial Zone has three rice enterprises, namely Mya Tha Zin Aung, Than Myit Tar and Shin.

2. Theoretical Background

The role of governance is central to the literature on value chains; that is, who controls the power relationships within the chain. Two types of value chains have been identified in the literature. Producer-driven chains are those in which companies produce the product and control the networks within the chain. Producer-driven chains are most common in capital- and technology-intensive industries where high barriers to entry in production. Buyer-driven chains, by contrast, are controlled by groups that market the product.

Two additional elements of the value-chains are also important with respect to agriculture. First, the role of upgrading by upstream actors is an important concept, given that competitiveness is a dynamic, continual process. In the context of value-chain analysis, upgrading takes the form of either developing new, higher-value market niches or by expanding the range of activities employed. For the latter, this could include a manufacturer expanding into distribution or R&D, for instance. The role of governance structures is important in how such upgrading by suppliers occurs, as is the support of government and other institutions. The second issue concerns the means by which benefits are distributed within the chain. This refers to the amount of benefit obtained by various actors in the chain as well as ways actors try to improve their position within the chain, through the differentiation of services and roles.

The value chain is a concept from business management that was first described and popularized by Michael Porter (1985). He showed many techniques of creating and sustaining competitive advantage. Value chain analysis is only one of those techniques. In this study, the value chains concept is based on porter's general model. Four concepts of value chain are important to sustain the firm's competitive advantage. First, two companies can compare with its primary and support activities to know which company is better than another. Second, if the firm is better than other companies in one activity, other activities are similar, as a result the firm will get competitive advantage. Third, linkage between primary activities and support activities can impact on the firm's competitive advantage. Finally, the firm can be sustained linkage between primary activities and support activities because it is difficult to imitate and understand by the competitors. The firm's manager should understand the four concepts of value chains to apply in the organization. By creating and using a value chain, the company can identify its strategic value activities, and also help to understand how the company works.

Value chain is the sequential set of primary and support activities that an enterprise performs to turn inputs into value - added outputs for its external customers. Porter (1985 p. 38 - 45) divides strategic value activities into primary activities and support activities. Primary activities are the activities involved in the physical creation of the product and its sales and the transfer to the buyer as well as after - sale assistance. Support activities support the primary activities and each other by providing purchase inputs, technology, human resources and firm's infrastructure. The present study focuses on primary activities which are presented in the following section.

Primary activities deal with inbound logistics, operations, outbound logistics, marketing and sales, and service.

2.1 Inbound and Outbound Logistics

Inbound logistics refers to the activities concerned with receiving the materials from suppliers, strong these externally sourced materials, and handling them within the firm. Outbound logistics which means all the activities concerned with distributing the final product or service to the customers. The purpose of both inbound and outbound logistics is to tie value chain activities together.

2.2 Operation

Operations are the activities related to the production of products and services. This area can be split into more departments in certain companies. Operations also concern with the activities after which products or services are ready to be used and bring money for a company. By creating environmentally friendly manufacturing, the firm can apply operations to obtain competitive advantage.

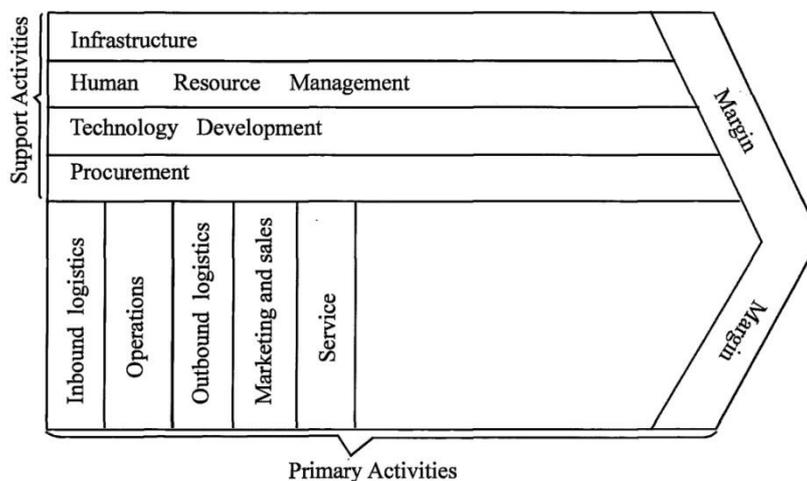
2.3 Marketing and Sales

In this section, the organization is essentially analysis of the needs and wants of customers and is also responsible for creating awareness among the target customers of the company about the firm's products and services. Therefore, companies make use of marketing communications tools like advertising, sales promotions etc, to attract customers to their products.

2.4 Services

Services include all those activities dealing with maintaining product performance after the product has been sold. The purpose of providing additional services is to capture customers in a lock - in situation. Lock - in is a situation where a customer is dependent on the vendor on products and services that he or she can't move to another vendor without substantial switching costs. In this situation every company wants to get and keep their customers.

Figure 1 Porter's general value chain

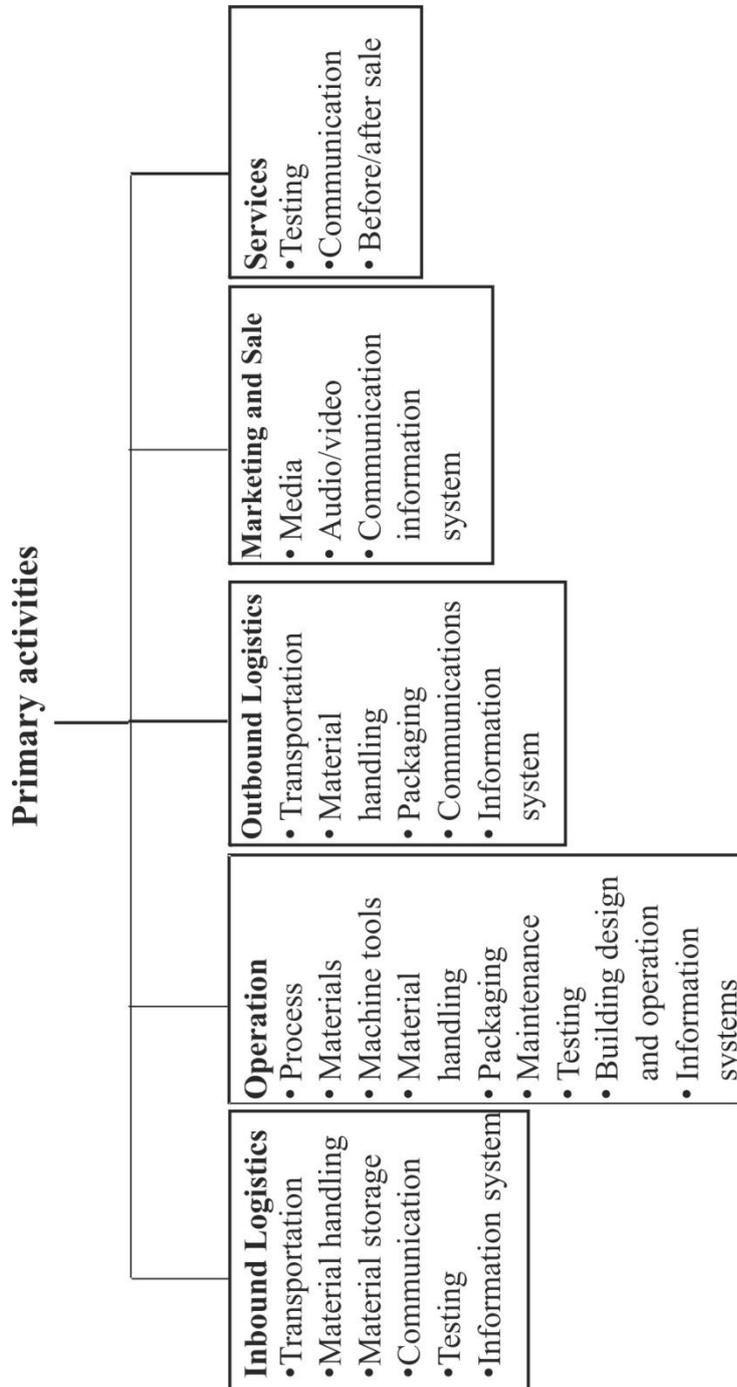


Source ; Porter, M.E. (1985), Competitive strategy techniques for analyzing industries and competitors.

Value Chain Model (Michael Porter, 1985)

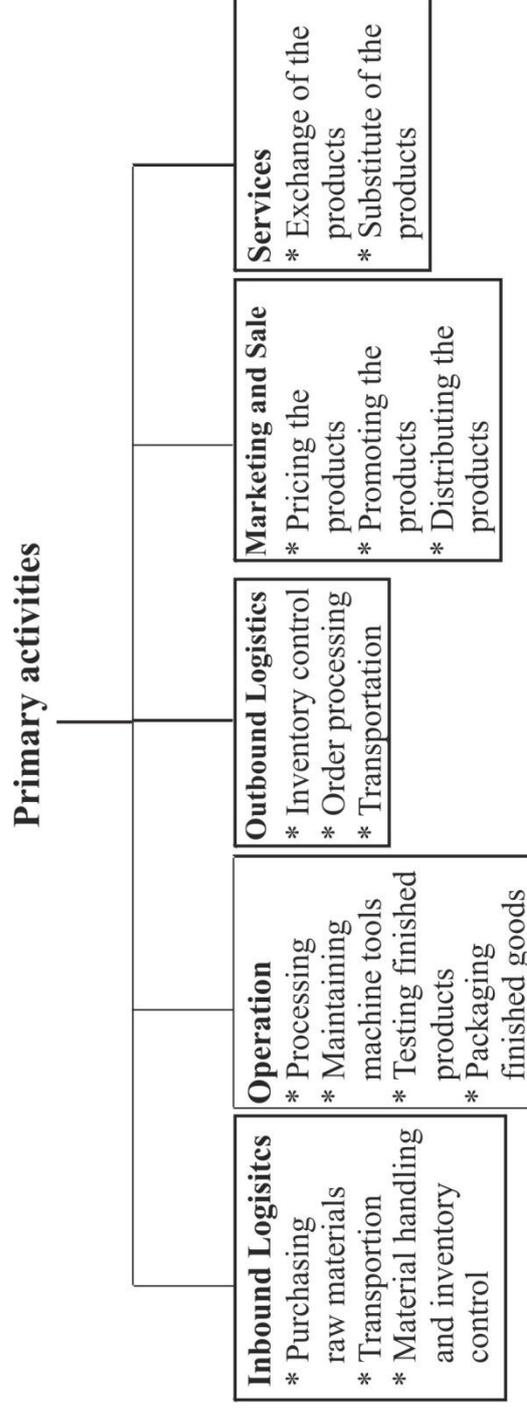
In this research paper, value chain model's primary activities were chosen to study. Factors of each primary activity are showed in figure 2 and 3.

Figure 2 Primary Activities of Michael Porter



Source ; Porter, M.E. (1985), Competitive strategy techniques for analyzing industries and competitors.

Figure 3 Main Factors of Primary Activities in Rice Enterprises



Source ; Own Compilation.

3. Analysis and Results

The present study is separately introduced the purpose of each primary activities in the value chain and expected results from it. A short clarification of every step in each activities of selected companies are described.

3.1 Inbound Logistics

(1) Purpose of the Inbound logistics

The purpose of the process of inbound logistics is to obtain raw materials of consistent quality for production and to manage the process from the purchasing stage to the production stage.

(2) The Expected Result of Inbound logistics

The expected results of inbound logistics are

- (1) To get the best quality paddy
- (2) To have smooth communication with farmers or agents
- (3) To sustain the inventory control cost of the raw materials.
- (4) To easily transfer raw materials to operation sector.

(3) The Phases of the Inbound logistics Process

Inbound logistics process consists of four phases in surveyed companies. These phases are purchasing raw materials, transportation, inventory control, and material handling.

(a) Purchasing Raw Material

Table 1 Priority Selection Concernin Raw Material of Rice Enterprises

Rice enterprises	Priority Selection		
	Quality	Cost	Long-term relationship
Mya Ta Zin Aung	2 nd priority	1 st priority	3 rd priority
Than Myit Tar	1 st priority	3 rd priority	2 nd priority
Shin	2 nd priority	1 st priority	3 rd priority

Source; Survey data, 2012.

According to Table 1, Mya Tha Zin Aung enterprise purchases paddy and rice by considering cost and quality of raw materials as the first and second priority. To purchase paddy and rice, Than Myit Tar enterprise firstly considers on quality of raw material and secondly emphasizes on transportation costs. Shin rice enterprise gives more attention to the cost of paddy and secondly emphasizes on quality of paddy.

(b) Transportation

Table 2 Priority Selection Concerning Transportation ways of Rice Enterprises

Rice enterprises	Priority Selection		
	Costs	Time Save	Damage Save
Mya Tha Zin Aung	1 st priority	3 rd priority	2 nd priority
Than Myit Tar	3 rd priority	1 st priority	2 nd priority
Shin	2 nd priority	1 st priority	3 rd priority

Source; Survey data, 2012

According to Table 2, in case transportation channel is selected, Mya Tha Zin Aung enterprise considers not only low transportation cost but also damage. To do so, this enterprise mainly uses boats to save the transportation cost. When transporting raw materials are transported to point of production, Than Myit Tar rice enterprise uses not only Lorries but also boats in order to save time and damage. Shin rice enterprise considers to save time. To carry raw materials, this enterprise uses Lorries only.

(c) Inventory Control and Material Handling

Mya Tha Zin Aung enterprise stores paddy in its two warehouses for 1 week to 2 weeks by using open bags storage system. Than Myit Tar enterprise stores paddy and rice in three-storied warehouse for 1 week by using open bags storage system. In inventory control system, Shin enterprise stores paddy and rice in the two own warehouses for 1 week. In material handling process, three rice enterprises use the poised vehicles for loading and unloading raw material in the factory as these vehicles can reduce power damage and the use of men power.

Concerning inventory control, three rice enterprises use sunlight system and dryer machine to control moisture content for paddy. These enterprises cannot perform well to meet 13% to 14% moisture content that is imposed by the Ministry of Agriculture and Irrigation.

3.2 Operation

(1) The Purpose of the Operation

The purpose of the operation process is to ensure that each machine and work station is producing the right products of the right quantity, quality at the right time.

(2) The Expected Results of Operation Activities

The results of operation activities are

- (1) To transfer input resources into useful output
- (2) To promote rice productivity
- (3) To reduce waste (broken rice, points)
- (4) To promote quality of head rice.

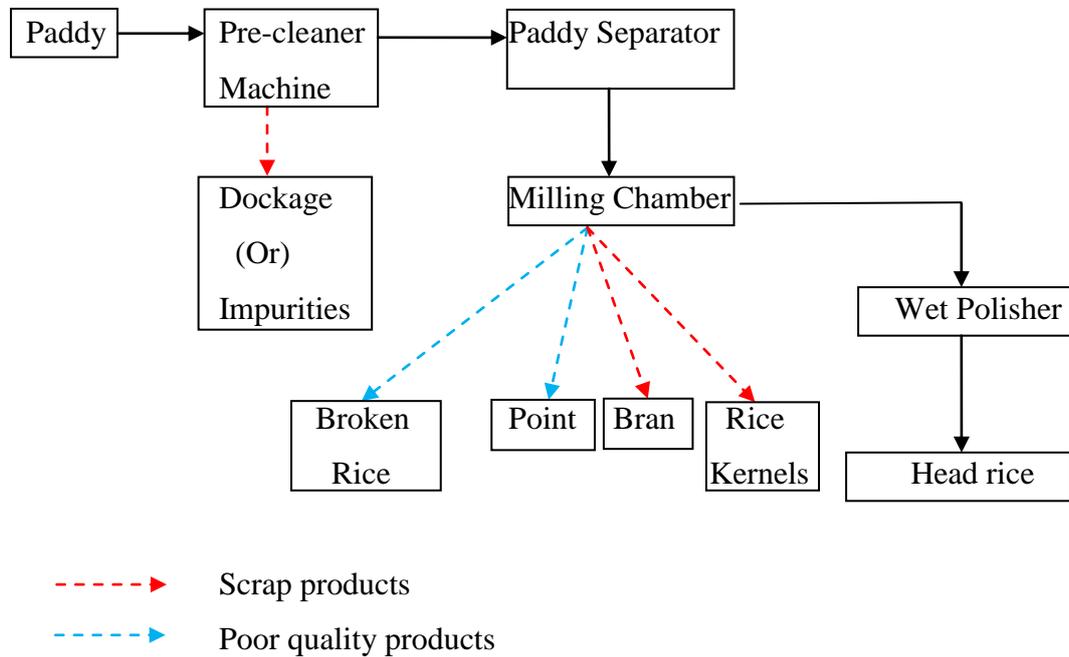
(3) The Phases of the Operation Process

The operation process of rice enterprises consists of three phases. These phases are processing, maintaining machine tools equipment, and testing finished products.

(a) Processing the Rice Enterprises

Three rice enterprises used in production are pre-cleaner, paddy separator, milling chambers, wet polisher and rubber roller machines.

Figure 4 Output of Scrap and Poor Quality Products in Rice Production Process



Source; Survey data, 2012.

Table 3 Productivity of Rice and Amount of Broken Rice

Particular	Mya Tha Zin Aung	Than Myit Tar	Shin
Equipment	Milling machine connected with wet polisher	Milling machine and rubber roller	Milling machine connected with wet polisher
Productivity of rice bags for paddy 100 baskets	24	26	25
Broken rice's bags	6	4	5

Source; Survey data, 2012

Table 3 shows that the amount of broken rice differs depending on the use of different machines.

(b) Maintaining Machine Tools and Equipment of Rice Enterprises

Concerning the process of maintaining machines and tools Mya Tha Zin Aung and Than Myit Tar rice enterprises use corrective maintenance method where the equipment is repaired after breakdown. But, Shin enterprise applies preventive maintenance practices where equipment is maintained before breakdown occurs.

(c) Testing Finished Products

Concerning head rice testing, the government regulates 70 CC standard to test the quality of head rice for local distribution. In testing the finished product sector, outgoing head rice is tested with 70 CC Standard in Mya Tha Zin Aung and Shin rice enterprises. If head rice does not meet with 70 CC Standard, the machine operator will refine their products with the colour polisher. Than Myint Tar tests head rice by using empirical testing by ratio 4:1 (or) 5:1 of broken rice and head rice. In addition, outgoing head rice is tested by cooking.

3.3 Outbound Logistics

(1) The Purpose of the Outbound logistic Process

The objective of outbound logistics is to manage the goods between the point of origin and the point of destination in order to meet the requirements of customers.

(2) Expected Results of Outbound logistics

The results of outbound logistics are

- (1) To deliver right place, time and amount
- (2) To reduce transportation cost
- (3) To smooth communication with their wholesaler and retailer.

(3) The Phases of the Outbound logistics Process

The outbound logistics process consists of inventory control, order processing and transportation.

(a) Inventory Control of Finished Goods

In the warehouse sector, Mya Tha Zin Aung enterprise arranges to store head rice in one of its own warehouse that can store 800 bags for one week. This enterprise uses two areatin machines to protect rice from bad smell and dust of rice. Than Myit Tar enterprise places head rice on the first and second floors that can store from 300 to 400 bags for two days. Because this enterprise does not use areatin machine, they have to sell their products within two days. Shin enterprise places head rice in its two warehouses each of that can store 6,000 bags for one week. This enterprise uses five areatin machines in each of its warehouses. Three rice enterprises arrange rice bags from 13 to 15 layers in the warehouse. At least from 10 to 13 rice bags are placed in one layer to reduce damage. The bottom layer is placed 6"-8" from the floor. And then, three rice enterprises place 5 to 6 tablets pesticides within the layers to protect from insects.

(b) Order Processing of Rice Enterprises

Three rice enterprises accept the order by phone from wholesalers and retailers, or they show the sample head rice to wholesalers and retailers. When Mya Tha Zin Aung enterprise gets orders, they can distribute rice bags within 7 days.

But, Than Myit Tar enterprise takes order list itself from wholesalers. Shin enterprise can fulfill the orders when the customers need.

(c) Transportation Process of Rice Enterprises

After receiving order from wholesalers and retailers (such as Bayintnaung, Pa Zon Taung, Kyauk Pa Taung and etc.), the rice enterprises choose the types of transportation methods such as lorry and ship. Mostly they use delivery trucks to distribute their products to the local market. Three rice enterprises can encounter difficult conditions such as ton constraints and insufficient employees to deliver the finished goods.

3.4 Marketing and Sales

(1) The Purpose of Marketing and Sales

The purpose of the process is to meet customer's needs and wants, to offer quality products at fair prices, and to promote company's sales by conducting the efficient promotion programs.

(2) Expected Result of Marketing and Sales

The result of marketing and sales are

- (1) To promote sale unit
- (2) To fulfill customer's need and want
- (3) To offer reasonable price
- (4) To attract potential and existing customer by offering quantity discount
- (5) To sustain local market share.

(3) The Phase of Marketing and Sales

The marketing and sale process of rice enterprises includes three phases. These phases are pricing of the product, promoting of the product and distributing the product.

(a) Pricing the Product

In this study, three rice enterprise's pricing policy is not only to seek profit but also to produce high quality varieties (HQV) and high yield varieties (HYV) to the hand of the customers. These enterprises set price of their products according to the rate imposed by the government.

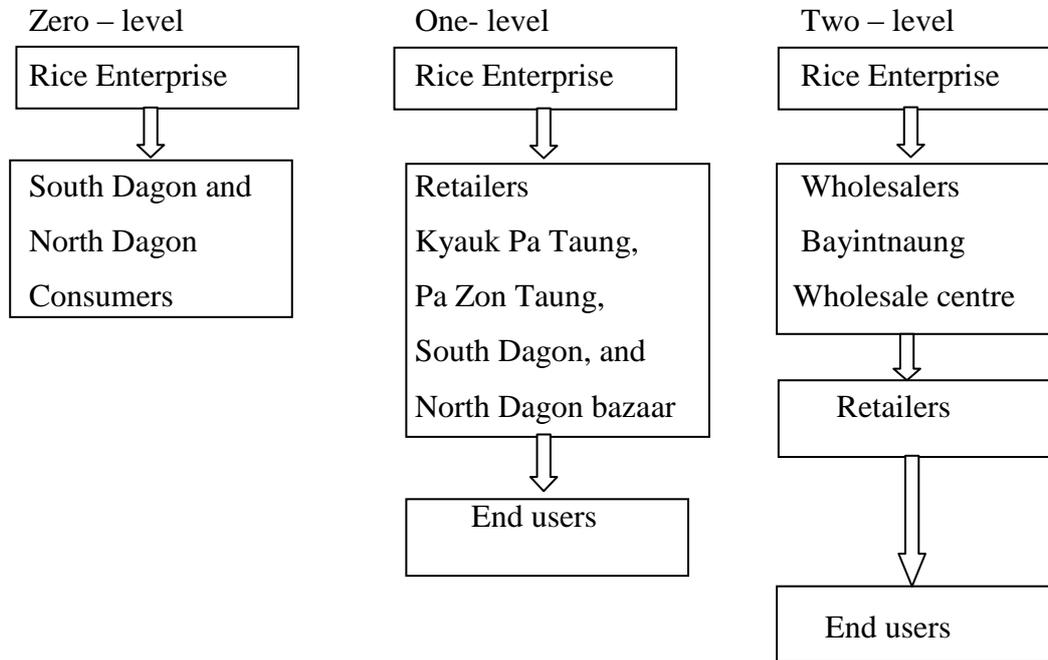
(b) Promoting the Product

Rice enterprises use promotion method mainly on advertising. In 2011, Mya Ta Zin Aung and Than Myit Tar enterprises use journal and directory to advertise their product. In 2008, Shin enterprise uses journals and directory. In 2010, Shin enterprise uses billboard as media to advertise its product.

(c) Distributing the Product

Three rice enterprises use from zero level to two-level distribution channel to distribute rice in local market.

Figure 5 Distribution Channel of Three Rice Enterprises



Source; Survey data, 2012

The main target of three rice enterprises is Bayintnaung wholesale centre because the retailers can easily purchase their products from that place. Three rice enterprises give the sample of head rice wholesale centre to seek local market share. Moreover, these enterprises distribute their products to the main target retailers who accept their sample head rice.

3.5 Services

The purpose of service process is to fulfill the customers' expectation and respond to the customer's increasing needs. If the quality of their products is unsatisfactory, the three rice enterprises replace them with new bags within 3 days after purchase. Moreover, they replenish the amount of head rice for the weight loss during the delivery process.

4. Conclusion

This study explored the three rice enterprises' primary value chain activities by analyzing the Porter value chain. By doing so, managers in each rice enterprise could understand the linkage between primary value chain activities that can impact on the firm's competitive advantage. According to the results of analysis, "inbound logistics" activities reveal that Mya Tha Zin Aung and Than Myit Tar rice enterprises mainly focus on cost and quality of raw material because these enterprises produce not only high yield varieties but also high quality varieties of rice. Shin enterprise considers the cost of raw materials since this enterprise only produces high yield varieties. Mya Tha Zin Aung enterprise connects with their suppliers in making upfront. Than Myit Tar rice enterprise connects with their suppliers by providing seeds. Shin company opens own wholesales center to purchase paddy raw materials directly from farmers. In packaging of finished goods, three rice enterprises buy the packing bags from outsiders to save investment costs for establishing the package bags factory and operating costs. When transportation channels are selected, May Tha Zin Aung enterprise considers not only save transportation costs but also saving the damage of raw materials. To do so, this enterprise mainly uses shipping way. Than Myit Tar rice enterprise uses not only vehicles but also ships to save the time and damage. Shin uses trucks by focusing on time saving. Concerning inventory control process, three rice enterprises store paddy by using open bags storage system. In the process of handling the materials, three rice companies use poised vehicles for acting of loading and unloading raw materials.

At the operation activities, Mya Tha Zin Aung and Shin rice enterprises use milling machines connected with wet polisher machines to increase the quality of rice. But Than Myit Tar enterprise uses milling machines with rubber roller machines to run production process and to separate head rice and broken rice. Concerning maintenance of machine tools, Mya Tha Zin Aung and Than Myit Tar rice enterprises use maintenance method in which equipment is repaired after breaking down. But Shin enterprise is applying preventive maintenance practices in such a way that equipment is maintained before breaking down. For testing the finished goods, Mya Tha Zin Aung and Shin enterprises test outgoing head rice with 70 CC standards that is regulated by the officials. Than Myit Tar do the test of their product quality by using empirical testing like cooking the rice.

As far as outbound logistics is concerned, inventory control system of three rice enterprises place five to six tablets pesticides within the layers of rice bags not to let the insects enter the sacks of rice. All rice enterprises show the sample of head rice to wholesalers and retailers for persuasion to buy their products. These rice companies deliver their products to their customers by dealing with right place, time and amount. In transportation process, the rice enterprises consider the distribution routes that it has saved time and cost. According to the fact, all enterprises mainly use vehicles to distribute their head rice.

In marketing and sales activities, three rice enterprises involve pricing, promotion and distribution of their products. They are weak in creating the new products. The studied rice enterprises set price of their products that is regulated by government officials. According to the study, all enterprises offer quantity discount to their customers. The companies mainly use journals, directory and billboard as advertising media to promote sales volume of their products. They use zero level and two level distribution channels for delivering to their ultimate consumers.

In service activities, the rice enterprises always exchange inferior products within three days due to lack of quantity and quality or damage that of their errors.

In conclusion, among the five activities of value chain, all rice enterprises were mainly focused only on three activities, namely; inbound, operations and outbound activities. Although some activities of each value chain are quite different in studying rice companies, they practise value chain activities to deliver right quality products with fair price. Shin rice enterprise's value chain activities are more advantage than others. Therefore, managers in rice enterprises should create competitive advantage that can not be copied by competitors.

5. Suggestions

The following recommendation can be provided to achieve competitive advantages through primary value chain activities for rice enterprises according to the results of analysis.

(1) For inbound logistics, rice enterprises should focus on inventory control process to maintain the quality of raw materials. When Storing paddy, it can be damaged because of temperature, moisture and oxygen. When the rice enterprises stores the paddy, they should consider the following activities; imposed by the government.

- (a) When the paddy store, warehouse should have 13% to 14% moisture.
- (b) Paddy with different moisture content paddy should separately be placed in the warehouse.
- (c) Different paddy varieties should separately be placed in the warehouse.
- (d) Storage paddy should have enough fresh air.
- (e) When the rice enterprises use temporary warehouse, zinc and bamboo should be used as warehouse's roof and floor and their warehouse's length, width and height should be 80 feet \times 40 feet \times 12 feet. In the temporary warehouse, only 500 tons of rice should be stored.
- (f) If the rice enterprise uses permanent warehouse, it should be built with zinc for warehouse's roof and floor. Permanent warehouse's length, width, height and the number of the tons of rice are the same as temporary warehouse system.

(2) In operation activities, the authorized person should focus on the quality of rice and wastes (broken rice, point). Therefore, the rice enterprises should test the quality of paddy in the lab. Besides they should use vertical abrasive whitener and color sorter machine. To promote the quality of rice, rice enterprises should emphasize on the use of machine and inventory control.

(3) In the outbound logistics activities, the rice enterprises should focus on transportation ways. When the rice enterprise delivers the finished goods, they carefully should choose transportation ways with less damage and time save.

(4) Concerning marketing activities, the rice enterprises should spend the money for advertising campaign such as TV, billboards that can increase sales. Moreover, these enterprises should make trade show to get potential customers and also distribute with own brand.

(5) In service activity, the rice enterprises should obtain customer's feedback to get satisfaction. Moreover, the authorized person should delegate duties for employees. To sustain competitive advantage, rice enterprises should understand the linkage between primary and supporting value chain activities than their competitors.

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