Thailand’s Banana Supply Chain Management: Export Success Factors

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Abstract
The objective of this study is to identify the main success factors in Thailand’s banana export production and distribution channels. This study used primary data from interviews with banana farmers and banana exporters. Secondary data were used for confirmation and key factors were established from questionnaires. This study found that banana exports from Thailand face many challenging factors such as production inputs that affect banana exports and banana distribution models. Farm inputs directly affect both the quality of bananas and farmers’ revenue. Since the cost of banana production has been rising continuously, farmers are discouraged from improving the quality of their bananas, and this affects the quality of banana exports. Banana farmers need support through low interest rates as incentives to improve production and quality. Banana distribution from farm to consumers has become more complex, which makes banana prices unpredictable and affects banana quality. If bananas are sent directly from the farm to exporters, this would reduce delivery times and logistics costs. Competitive prices for banana exports are a key factor. Pricing strategies need to be revamped to reflect real demand and supply. Importers have seasonal demands that may be different from the main Thai growing season. Since this will affect banana supply, production planning must consider this point. Banana supply chain management for banana exports needs to focus on farmer production inputs, distribution channels, banana quality and competitive prices.

Key word: Banana, Thai export, Supply Chain Management, Price, Banana quality

Introduction
Currently agricultural products exports from Thailand are facing many challenges from the world market since the world economy is still continuously improving and the Thai economy has slowed down. Another challenge for Thai exports is product quality and pricing. If competitors produce bananas that are no different in terms of quality, then the final decision that will determine a sale will be the price.

There is demand for bananas from Thailand because they are perceived to be delicious, soft and of high quality. However bananas from Thailand can ripen too quickly and other concerns include skin that is too thin or too much dirt on the fruit.

Studying Thailand’s banana supply chain is very important because it will help banana farmers and exporters to improve the quality of Thailand’s banana exports and help to attain a competitive advantage.

Literature Review
Smallholder farmers have not fully benefitted from current crop practices. They need urgently to increase inputs of fertilizer and labor to improve productivity (Tittonell, P., and Giller, K.E., 2013).

Cassava production in Nigeria needs to improve yields, reduce production costs and increase the starch content in the root to achieve a competitive advantage since cassava production is currently facing high production costs. Success can occur when all of the processes, such as production, processing and marketing, are completely integrated (Oni, K.C., and Oyelade, O.A., 2014).

Suppliers have more influence on foreign resellers’ behavior and they also can manage the distribution channel by implementing pricing strategies. Export price manipulations have created internal competitive advantages and exporters achieve their targets by adopting appropriate performance practices (Obadia, C., and Stottinger, B., 2014).

The unique characteristics of the food production industry and growing concerns about food processes have led to the urgent need to consider decisions about support tools, and the quality of both preservation and environmental protection practices (Soysal, M. et al., 2014).

Fruit production in Thailand has increased in the last five years due to a significant rise in both domestic and international demand. However Thai However Thai fruit prices have not increased at as high a rate as expected when compared with volume. The main factors that affect Thai fruit exports is that fruit from Thailand tends to sell at higher prices than fruit from other countries (Khaimarn, 2003).

The impact of Japan’s banana tariff reductions has definitely created value for importers who are working...
as middlemen. Under Japan’s plant quarantine regulations, Thailand cannot export bananas to Japan if they have aphids, are too ripe or dirty, or have any kind of insects. Despite Japan’s strict regulations, Thai exporters still include bananas that are rejected for these reasons, and this creates disposal problems and also threatens Thailand’s reputation as a banana exporter (Wongmee, 2009).

Methodology

Results

Table 1 Banana Production Inputs

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Cost of fertilizer is a major concern</td>
<td>2.58</td>
<td>1.06</td>
</tr>
<tr>
<td>2 Cost of farm equipment is increasing</td>
<td>2.55</td>
<td>0.75</td>
</tr>
<tr>
<td>3 Labor costs are increasing</td>
<td>2.71</td>
<td>0.98</td>
</tr>
<tr>
<td>4 Information assessments are difficult</td>
<td>2.97</td>
<td>0.84</td>
</tr>
<tr>
<td>5 Loan support is necessary</td>
<td>2.85</td>
<td>1.4</td>
</tr>
<tr>
<td>6 Drought conditions affect banana yield</td>
<td>3.15</td>
<td>1.32</td>
</tr>
<tr>
<td>7 Banana transportation practice needs to be revamped</td>
<td>2.73</td>
<td>0.5</td>
</tr>
<tr>
<td>8 It is very difficult to meet export standards</td>
<td>2.86</td>
<td>1.4</td>
</tr>
<tr>
<td>Average</td>
<td>2.80</td>
<td>1.03</td>
</tr>
</tbody>
</table>

*Number of respondents= 53

Table 1 shows the mean and S.D. results for these variables: Cost of Fertilizer is a Major Concern; Cost of Farm Equipment is increasing; Labor Costs are Increasing; Information Assessments are Difficult; Loan Support is Necessary; Drought Conditions affect Banana Yield; Banana Transportation Practice needs to be revamped; and It is very difficult to Meet Export Standards. The results found that farmer responses were in the agreed level, in which the mean=2.80 and S.D.=1.03. The mean of the Cost of Fertilizer is a Major Concern was 2.58. The mean of the Cost of Farm Equipment is Increasing was 2.55. The mean of the Labor Costs are Increasing was 2.71. The mean of Information Assessments are Difficult was 2.97. The mean of Loan Support is Necessary was 2.85. The mean of Drought Conditions Affect Banana Yield was 3.15. The mean of Banana Transportation Practice needs to be Revamped was 2.73 and the mean of It is very Difficult to Meet Export Standards was 2.86.

The findings show that increasing costs of farm inputs have significantly reduced farmers’ revenue and this has become their most serious production challenge. Jamaica’s banana industry will decline as farm inputs are continuously rising and this causes an abundance of Jamaican banana farmers, particularly of female farmers (Telphia and Nzeogwu, 2010).

Since banana production is labor intensive, labor costs have a direct affect on banana production costs. Increasing labor costs make banana farmers worry about losing money.

Farmers said it was difficult to assess information as it was very hard for them to monitor banana market prices or to determine world market needs. Market information and production information tended to come mainly from Government extension workers who regularly visited farmers. However the information was not updated regularly and it was not solely banana market information.

Banana price support policies did not have more of an impact on farmers when compared with farm input subsidies, such as lower fertilizer prices, lower interest rates or expanding credit options that would help banana farmers to improve their production. New technology development for banana production is needed since it would reduce the need for labor and would reduce production costs (Khaimarn, 2003).
Most crop losses are due to flooding and drought conditions (IPPC, 2001). Climate change also affects crop losses in crop farming systems more than livestock farming. Farmers in drought-prone areas tend to be poor and to have insufficient sensitization (Gichere, S. K. et al., 2013).

In India, post-harvest banana processing was revamped to solve problems of short shelf life and poor quality. The changes included identifying a precise maturity stage, banana storage preparation and banana transportation methods for both local and international trade (Indian Patents News, 2011). Ideal storage systems and packing practices for long distance transportation are important because bananas are easily damaged from inappropriate post- harvest practices (Kudachikar, V.B. et al., 2007).

The expansion of retailer-led food production standards has created problems because monitoring is required to meet the regulation and compliance requirements. This also makes people focus more on meeting production standards rather than environmental, social and labor welfare standards. The gap between social and environmental concerns in banana production is now growing wider, particularly in the Philippines (Lockie, S. et al., 2014).

Figure 1 Domestic banana market model

Figure 1 shows that the domestic banana market flow begins at the banana farm, where farmers are selling 27.25% of their crops to brokers who collect bananas from farms and then resell them to consumers, processing plants and exporters. About 21.10% of farmers are selling their bananas directly to consumers. Then, 19.25% of farmers sell to their banana association, which is located near their farms. Normally banana associations provide farm input materials or offer loans to their members. About 32.40% of farmers sell to banana cooperatives which are usually located in their areas. However some cooperatives are far from the farms. Farmers take this option when the cooperative offers programs designed to improve production and banana yields.

The sales choices in Thailand’s Pathumthani Province can be broken down like this: 19.26% of farmers sell directly to consumers; 56.41% of them sell to other provinces, and 28.21% of them sell to either other provinces or to areas in or near Bangkok. They have brokers for their banana distribution. The brokers sell to processing plants and exporters (Laotaweesup, 1994).
Table 2 Factors Affecting Thai Banana Exports

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>S.D.</th>
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</thead>
<tbody>
<tr>
<td>1 Export price must be competitive</td>
<td>273</td>
<td>0.56</td>
</tr>
<tr>
<td>2 Banana quality needs to meet import standards</td>
<td>2.71</td>
<td>0.49</td>
</tr>
<tr>
<td>3 Competitor prices are affected</td>
<td>2.53</td>
<td>1.02</td>
</tr>
<tr>
<td>4 Strong network of exporters</td>
<td>2.50</td>
<td>0.73</td>
</tr>
<tr>
<td>5 Bananas must preserve well</td>
<td>2.48</td>
<td>0.96</td>
</tr>
<tr>
<td>Average</td>
<td>2.59</td>
<td>0.75</td>
</tr>
</tbody>
</table>

*Number of respondents=12

Table 3 shows the mean and S.D. results for these variables: Export Price Must be Competitive; Banana Quality Needs to Meet Import Standards; Competitor Prices are Affected; Strong Network of Exporters; and Bananas must Preserve Well. The results found that the exporter responses were in the agreed level, in which the mean=2.59 and S.D.=0.75. The mean of Export Price Must be Competitive was 2.73. The mean of Banana Quality Needs to Meet Import Standards was 2.71. The mean of Competitor Prices are Affected was 2.53. The mean of Strong Network of Exporters was 2.50; and the mean of Banana Must Preserve Well was 2.86.

Egyptian cotton exports to China declined significantly from 1992-2011 due to competitive cotton prices. Export prices were directly affected by US export prices in the Chinese market. The demand for Egyptian cotton has been found to be very sensitive to prices changes and the Chinese tend to switch to Egyptian cotton when the Egyptian cotton price changes (Hatab, A.A. and Romstad, E., 2014).

The imposition of a minimum standard (MS) for goods produced by local firms and international competitors has been expensive for producers. Costs have risen along with the new standards, since it definitely affects fixed costs (Fischer, R., and Serra, P. 2000).

Ever since the euro zone was fully implemented in January 1999, price competition increased across Europe. Many companies need to urgently change their marketing strategies to improve their competitive advantage. Prices still have a long way to move and the rate of price changes depends mainly on business categories. It also depends on the price of each product and price sensitization among customers (Ahlgerg, J., Nicklas, G., and Naucler, T., 1999).

Equipment manufacturer BelAZ successfully expanded its market and revenue after working on a product and promotion network and the revenue continued to grow from the product realization. The dealer network expansion increased business opportunities and the firm focused on resource utilization and competencies such as marketing, human resources and productivity (Kazachenko, K.I., 2013).

Banana quality problems always happened during shipping when the refrigerated containers were not working properly. Sometimes the refrigerated containers had insufficient cooling and non-optimal atmospheric operating conditions. However when managed well, bananas remain green and ripen only when they are removed from the containers (Jedermann, R., et al., 2014).

**Conclusion**

Thailand’s banana export industry faces three main challenges: banana production inputs; factors that affect export transportation; and factors that affect the distribution model.

Farm inputs have a direct affect on both banana quality improvement and farmers’ revenue. Since banana production costs have been rising continuously, farmers are discouraged from trying to improve the quality of their bananas, and this affects the quality of banana exports.

Soft loans are still needed as farmers do not have enough cash to invest in banana production. If they were able to get financial support through low interest rates, this would encourage them to improve their banana production.

Banana distribution from the farm to consumers occurs through several channels, which make banana prices unpredictable and slow delivery times can rot bananas or make them ripen too soon. The main distribution channel should be direct sales from farmers to exporters to reduce delivery times and logistics costs.
Competitive prices for banana exports are a key component, since competitors attract buyers with price strategies. Price strategies need to be revamped to better reflect real demand and supply. Importing countries have seasonal demands which may not coincide with Thailand’s main banana harvest season. This can affect supply, so production planning must consider this point for price elasticity protection.

The export factors that affect Thailand’s banana supply chain management include a focus on farmer production inputs, distribution channels, banana quality and competitive prices.

References


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Obadia, C., and Stottinger, B. (2014). “Pricing to manage export channel relationships”.


