

RESEARCH ARTICLE

Effective Management Via a Business Model of Food and Drink Processing from Lychee Products in the Northern Areas of Vietnam

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ABSTRACT

In this study, authors aim to figure out the effectiveness of the food and drink process in the case of making lychee juice and lychee-tea combination fruit juice in a tropical country such as Vietnam, via a business model, with inputs, process, and outputs.

We used scientific methods such as: qualitative analysis, synthesis and inductive methods, with description and explanatory methods. We also build a typical quantitative business model to measure profits of our lychee project.

We propose to buy lychee (red lychee) with black tea from Northern provinces such as Thai Nguyen city, Hai Duong and Ha Giang provinces, etc.

Then we can have a business model of making fruit juice from lychee products (red lychee with green or black tea). This will show effectiveness of delicious food and drink making from good agricultural products of Vietnam.

Last but not least, we emphasize positive and healthy aspects of lychee products and lychee fruit juice in our country, Vietnam. And also roles of banks in project financing is also a good way to support microfinancing for start-ups and our business model.

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Introduction

Vietnam agriculture has been growing in 2012-2020, however according to World bank, overall agricultural productivity (TFP) has been in a declining trend since the year 2000.

Vietnam's tea exports are mainly and for a long time focused on markets Easy-going market, does not set strict standards on food safety and hygiene. In the same market segment, the selling price of Vietnam's tea in the world market usually only 65% of that of other countries, even only 50% of the export price of Kenya (the largest tea exporter).

In exports, Vietnam mainly relies on exploit the available competitive advantages (cheap labor, land, resources) that have not actively created new competitive advantages to increase added value. Exist very large in the stage of tea export, there is almost no brand name and origin on the packaging label (To Linh Huong, 2017).

The actual situation of using agricultural land is still according to household size, self-sufficient production and self-occupation advantages make land use less sustainable and less efficient. Current farms have almost grown to the limit due to land limitations and the tendency to shrink due to land use conversion process. The move from farm to business agriculture in order to increase added value, apply science and technology and go up, The large manufacturing industry is facing many barriers. One of the notable barriers

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is the issue a certificate of land use right (red book). Complicated administrative procedures plus harassment in red book making and the consolidation of many separate plots of land The same red book is becoming a barrier to the transaction of agricultural land market (Phi Vinh Tuong, Nguyen Dinh Hoa, Vu Hoang Duong, 2014).

Thai Nguyen, Hai Duong and Ha Giang provinces has invested very much for agriculture, tea and lychee products. Policies to attract domestic and foreign enterprises to invest in processing and consuming Thai Nguyen tea are focused. Localities encourage joint ventures and linkages between producers of raw materials and enterprises that process and consume products; linking domestic enterprises with foreign partners to boost production, industrial processing, increase export volume...

In this study we emphasizes on agriculture policies in lychee product planting/growing in the north of Vietnam, and build a business model for processing lychee products with green or black tea.

Our study aims to figure out agricultural policies for tea and lychee products in the Northern region of Vietnam via a business model of processing lychee juice.

This paper organized with introduction, literature review, main results, discussion and conclusion.

Literature Review

The below table will summarize previous studies relating to our agriculture and food & drink processing topic:

Table 1. Summarize previous studies

Author names	Year	Results, contents
1.Zheng et al	(2008)	There is low temperature (13-16oC) for processing lychee wine and lychee juice. Then, we recognize fermentation in 8-10 days. Sugar: 161.4g/l, acid: 2.2g/l and K: 1251.8mg/l. For lychee wine, we found out 0.048 g/l alcohols
2.Sharma and Ramarathinam	(2014)	There are 2 components creating feature of lychee fruit juice: two cultivars viz. cv. Dehradun and cv. There is a time or preservation of 6 months. And temperature is at 20-50° C for rheological behavior.
3.Lins et al	(2015)	Layer of air done with Bengal seed which is healthy and leafy are used in woody branches, diameter of 0.015m. Air layer - lychee are evaluated with impact of seasons and substrates for seedlings producing.
4.Zhao et al	(2020)	Until now, in China, people use lychee, just as 20 countries in the world, as drinks, fresh processed. Also it is medical treatment (purpose of medicine) for stomach ulcers and diabetes, with delicious flavor and high nutrition.
5.Pham Van Hong, Dinh Tran Ngoc Huy, Le Thi Thanh Huong et al	(2021)	There are several factors that affect Vietnam agriculture sustainability such as: skills and experience of farmers, advanced technology, agricultural engineering, standards and models such as VIETGAP or GLOBAL GAP, etc. If comparing resources efficiency use, the nation has many Weakness points in the region in terms of land, water and labor.
6.Zhao et al	(2020)	There are many benefits from fresh lychee such as: good for biological activities, rich of vitamin and nutrition, etc.

Data and Methodology

- Value chain approach: The thesis uses the value chain approach to analyze the value chain including input supply - production - collection. Processing - consume); production and business linkages of related actors (farmers, enterprises, associations, the state...); approach in the way of upgrading added value in the chain.
- Authors also use a financial analysis and a business model to present raw material purchasing plan, sale action plan and financial results and NPV calculation of our business model.
- For qualitative analysis: we use synthesis and inductive methods.

Main Findings

Raw Materials - Lychee Products

Hai Duong and Bac Giang provinces are where farmers plant lychee.

In Bac Giang: Regarding the distribution of lychee growing area by location, litchi trees are most concentrated in Luc district Ngan (accounting for more than half of the province's area). Not only a place to grow lychee for High yield, litchi fruit of Luc Ngan has the best color and flavor of Bac Giang province is confirmed in the domestic market and Chinese traders. Price lychee sales in Luc Ngan district are usually much higher than in other districts in the province.

The remaining provinces also have quite large planting areas such as Luc Nam, Yen The, and Son districts Dong, Tan Yen, Lang Giang. However, the selling price and efficiency are often lower than Luc Ngan district. In many areas of the districts, growing litchi is not really effective fruits, so they switched to other fruit trees (grapefruit, oranges, na,...). Districts with The area decreased significantly such as Luc Ngan, Yen The, Son Dong, etc.

Belwo chart wll shw us ares of planting lychee in Bac Giang province:

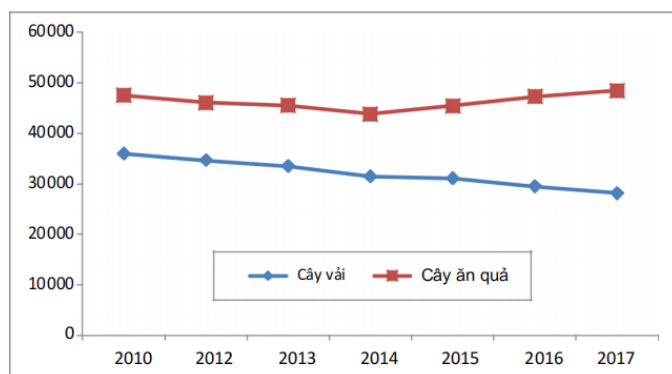


Chart 1. Lychee plating area
(source: Bac Giang statistic bureau, 2018)

Table 2. Global lychee production

Country	Quantity (tons)
<i>North of Globe</i>	
1 China	1.482.000
2 India	624.000
3 Vietnam	156.000
4 Taiwan	80.000
5 Thailand	43.000
6 Nepal	14.000
7 Bangladesh	13.000
8 Pakistan	3.000
9 Mexico	4.000
10 Israel	1.200
11 USA	600
12 Others	51.600
<i>South of Globe</i>	
1 Madagascar	100.000
2 South Africa	8.600
3 Australia	6.000
4 Réunion	12.000
5 Mauritius	4.500

(Source: Vietnam Trade Office in Australia, 2015)

In general, litchi has initially joined the market of developed countries, people grow litchi profitably, many households can get rich from litchi. For With the domestic market, litchi fruit is also gradually distributed through various channels such as supermarkets, retail chains with higher standards.

However, the current litchi fruit is still mainly focused on 2 traditional markets: China and in the domestic informal market (street vendors, sidewalks, traditional markets system). Most of the factors that support litchi to participate in the global value chain are still there weak. Except for inputs for production (biological pesticides, micro-fertilizers, livelihoods, production tools, etc.) are relatively easy for farmers to access, most of the remaining supporting factors such as post-harvest support services (infrastructure, research, testing, logistics,..); production organization, the capacity of enterprises is still weak. Therefore, taking

Taking advantage of opportunities from Vietnam's integration policy with the world has not really achieved results yet best possible results.

Raw Material - Green Tea and Black Tea

In Vietnam, tea tree was once considered as one of the crops serving eradication poverty alleviation. In the past 10

years, the tea area increased by 15.8 thousand hectares; from 107.4 thousand hectares (2007) to 123.2 thousand hectares (2017); growth rate reached 1.38%/year. In Vietnam, 34 out of 64 provinces and cities set aside arable land for cultivation tea, but mainly concentrated in the Northern Midlands and Mountains (accounting for 68.4% of the total area of tea production in the whole country).

1. In Thai Nguyen City: The City of Tea, esp. Tan Cuong Tea

Thai Nguyen province has issued a series of agricultural extension policies for tea plants such as subsidizing tea varieties for new planting areas and replanting high-yield, good-quality tea, with a subsidy of 30-100%. The tea varieties all ensure technical standards and are certified by competent authorities.

In addition, a team of agricultural extension officers are often present in tea areas. This force plays a key role in propagating and guiding people to apply technical advances in cultivation, variety conversion, and enhancement of tea production values. This way helps people feel secure when investing in tea.

Scientists in the province always work closely with farmers to bring new high-quality tea varieties that are popular in the market such as LDP1, Keo Am Tich, Phuc Van Tien, Kim Tuyen... into research, testing and transfer to relatives.

In 3 years of implementing the project, Thai Nguyen province has planted 1,354ha and replaced 2,557ha. Most of the planted areas are high quality tea varieties, propagated by cuttings such as LDP1, Phuc Van Tien, Kim Tuyen... Tea replanting is carried out for medium tea areas. old yogi. The structure of tea varieties is improved in the direction of gradually reducing the area of midland tea, increasing the area of new varieties. (source: bantraco.vn)

2. Process Lychee into Fruit Juice

From Thai Nguyen tea, we can process to make green or black tea and material to produce lipton tea.

Process of making lychee-tea juice in our country:

Step1 : choose good red lychee as the picture (above), together with sugar and little water.

Step 2: use tea (black tea or lipton tea)

Step 3: After that, add ice, lychee and fresh lychee into the glass depending on your taste like more or less. You can decorate a few sprigs of basil on top to make the lychee drink more eye-catching.



(source: internet)

3. A Business Model and Business Results

First step: We can plan to invest capitals to buy materials - lychee (red) and green and black tea.

Second step: we invest capitals to rent a place to sell lychee fruit juice

Third step: We build a business plan as below

Table 3. Plan to purchase material (unit: m VND)

Order	Material	Quarter 1			Quarter 2			Total year
		Jan	Feb	Mar....	
		Beginning value	Buy lychee	Unit price				
1	Red lychee							
2	Black tea							
3	Green tea							
4								
...								

(Source: author calculations)

Table 4. Sale action plan (unit: m VND)

Order	Client	Jan		Feb		March	Total year
		Amount	Sell price	Amount	Sell price	Amount	Sell price	
1	Individual							
2	Group							
3	Company							
4								
...								

(Source: author calculations)

Table 5. NPV estimation of our business model (unit: m VND)

Interest rate	10%			
Year	0	1	2	3
Cash flow	(600)	200	200	500
PV factor	100%	91%	83%	75%
PV of cash flow	(600)	182	165	376
Cumulative PV	(600)	(418)	(253)	123
Net Present Value	123			

(Source: author calculations)

Health Factors in Lychee Fruit Juice

Lychee is low in calories, has no saturated fat or cholesterol, but is rich in fiber, so it is suitable for people who want to lose weight. Lychee helps nourish oily skin, reducing the development of acne. The active ingredients in this fruit help eliminate toxins, giving you a beautiful and healthy skin.

Discussion

On the other hand, we can make lychee juice with sugar and water in the below process:

Step 1: Put the water in the pot and boil until the water boils, then add the lychee, boil the lychee for 1-2 minutes, then take the lychee out, soak it in cold water for about 5 minutes. When boiling lychee, it will be easier to peel off the skin, soaking the lychee in cold water will make it more crispy and delicious. To make the most delicious pickled lychee, choosing fresh lychees is very important, so please refer to the article on how to choose the right fresh lychee.

Step 2: Put the sugar, a little salt and 400ml of water into the pot, cook while stirring gently to dissolve the sugar, as well as not letting the sugar deposited at the bottom of

the pot burn. When the sugar has melted, turn off the heat, then let it cool.

Step 3: After the lychee has been drained, put it in a glass jar, then add the cooled sugar water, pour the sugar water to cover the fabric, then close the lid. After 2 days, it can be taken out and used, soaked cloth can be stored in the refrigerator compartment for 1-2 months.

We need to select good lychee o make it:



(Source: internet)

Conclusion and Policy Recommendations

Conclusion

There are various advantages of making lychee products with green tea and black tea and good for all people health as discussed above.

In below section, we introduce policies to encourage planting and growing lychee and tea in Vietnam, as well as project financing for agriculture in this sector.

In the next period, in order to take advantage of opportunities from better integration, Vietnamese agriculture needs to have fundamental changes in the organization of production, processing, trade promotion and product branding. The policy environment needs to be

improved to attract more than investors, large enterprises engaged in export processing better bridge between farmers and international markets.

The biggest limitation throughout Vietnam's tea value chain is low product quality on both sides of input (fresh tea buds) and processed tea products (raw tea). For tea growers with outdated techniques, improper use of fertilizers, excessive use of many pesticides. Many production and processing facilities do not ensure safety and hygiene food biology (MCG 2014). Vietnamese tea products are exported with high quality not high, mixed with many impurities. The most interesting thing is many Vietnamese tea products Nam still contains residues of pesticides above the allowable level. Meanwhile, the market The international market has increasingly high requirements on food quality, hygiene and safety. Much Vietnam's tea consumption market has very specific and strict requirements. Market Pakistan (Vietnam's largest export market).

Beside, policy environment to support and attract agricultural product processing enterprises still weak. Therefore, a large number of enterprises/investors engaged in export processing Exports are still small, operations are mainly seasonal and lack a long-term strategy.

Processed products have not yet created Vietnam's own prestige and brand on the international market.

Third, market research and development is still mainly focused on the domestic market and China, lack of research activities to expand international markets, especially promote market access in developed countries.

Recommendations on Policy Implications

From the study of two specific product chains, lychee and tea, there are some signs positive as follows:

The production trend towards safer/cleaner has increased in the past period when There are many farmer households participating in training and production according to standard procedures such as:

VietGap, GlobalGap, UTZ, etc. Some organic production models have been created completely different product value.

Tea and fruit processing products tend to be more and more diversified than. Initially attracting investors and businesses to invest in machinery technology to create new products, high-end products bring greater added value through access to higher-end markets

The Solution to Promote Growth in Lychee and Tea Production from Bank Financing

For agriculture (lychee-tea) project financing:

A big bank in Vietnam, Agribank has developed many lending programs with preferential interest rates. Agribank is committed to continuing to proactively prepare sufficient capital to meet the needs of agricultural and rural lending, paying attention to innovating lending methods, improving processes, simplifying lending procedures, and saving money. saving lending costs to lower lending interest rates to support customers, well implement social security policies to contribute more to the development of "Tam Nong"; At the same time, agriculture, farmers and rural areas are still

identified as strategic areas and individual customers, small and medium enterprises are the main segments of Agribank's credit activities.

Limitation of the Research

We need to compare our country experience in producing lychee-tea fruit juice to other neighbor countries experiences in Asia such as Thailand and China and India, etc.

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