

Conference Paper

STP Analysis in Marketing Pigmented Rice as Functional Food

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Abstract

The trend of people changing to healthier lifestyle has contribution to increase consumption of healthy food including pigmented rice. Demand for pigmented rice in the special province of Yogyakarta has risen but farmers are still having difficulties in marketing their produce. This research aimed (1) to identify segments of targeted consumers for pigmented rice sales, and (2) to develop marketing strategy for pigmented rice as a functional food. The research was conducted in districts of Yogyakarta, Sleman, and Bantul. Consumers were grouped based on their psychographic aspects i.e. motivation, health awareness, and lifestyle. It seemed that farmers needed to do rebranding upon their products and focusing on consumers with high awareness toward their health.

Keywords: Functional Food; Marketing Strategy; Pigmented Rice; STP Analysis

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Received: 25 December 2017

Accepted: 5 February 2018

Published: 1 March 2018

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INTRODUCTION

Indonesia has experienced a number of illnesses caused by the growing prosperity of the population included obesity, diabetes, and heart disease. Each year an estimated one out three people worldwide suffer from food-borne illness and 1.8 million of them died [6]. Data from the Ministry of Health [1] also showed that coronary heart disease, cancer, and diabetes are not contagious diseases those cause the largest part of death in Indonesia. These problems brought about most people change their mindset towards food. Concerns about the importance of health brings a consequence of factors not only related to socio-demographic changes in society over the last few years, but also the progress in scientific knowledge about interaction between diet and health. Therefore, the desire of an increase in life expectancy and the emergence of the diseases may be correlated with wrong dietary habits that further resulting in health motivation in food consumption choice.

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An increasingly popular choice of food that is consumed as a healthy food is pigmented rice. Pigmented rice is rice that has color pigment due to their anthocyanin content. Red rice and brown rice have less sugar content than white rice. Smaller amounts of sugar are considered capable of lowering blood sugar levels. Black rice is considered capable of reducing cholesterol levels which is a trigger for coronary heart disease and stroke [4].

With the health benefits in pigmented rice consumption, its demand continues to increase according to a marketing division staff of agricultural local government's office of the special province of Yogyakarta. The demand continues to rise from 900 to 1,200 tons per year for three consecutive years since the year of 2013. It was also indicated by the increased availability of pigmented rice in modern retail in Yogyakarta. Pigmented rice have higher selling price (Rp30.000/kg) than white rice (Rp11.000/kg), so there was an opportunity for pigmented rice to be a good business. Pigmented rice may increase rice farmer's income. There were prospects for business development for farmers.

MATERIAL AND METHODS

The object of this study was pigmented rice consumers who purchased and consumed pigmented rice (red rice, black rice, brown rice, and or mixed rice) in the region of Yogyakarta. This research was initiated with preliminary observations on pigmented rice farmers and to identify the problems that exist in the marketing process. After that, a survey was conducted to the consumers to find out their motivation, perception, health awareness and lifestyle. The survey was conducted on 98 consumers as respondent who live in the district of Sleman, Yogyakarta and Bantul. Preliminary test of the questionnaire was conducted after 60 respondents completed to ensure that all the statements in the questionnaire were valid and reliable.

The questionnaire consists of five sections. The first part contains the respondents' socio-demographic including age, gender, occupation, marital status, number of people living in one house, income level and educational background. The second part was to determine consumer purchasing decisions. The section consists of aspects in choice of product, dealer, brand, and purchase amount. The third part consists of statements were to identify consumer attitudes and behavior which based on motivation and perception. The fourth part contains 30 enclosed statements with Likert scale of 1 to 5, which were arranged to find out the level of consumer's health awareness. The last

TABLE 1: Cluster analysis result.

Cluster	Number of respondents	Percentage (%)
1	47	49
2	33	34
3	16	17

part contains 15 enclosed statements with Likert scale of 1 to 5 to explore information about the lifestyle of respondents.

Segmentation was done through the application of cluster analysis that resulted in several segments of consumers existed in the market. Targeting means choosing segment(s) to be targeted as the main consumers to be served, and then positioning was done along with the process to develop the marketing strategy.

RESULTS

Consumer Segmentation of Pigmented Rice

Findings about socio-demographic distribution of the respondents indicated that they were dominated by women (68%), which was largely in the 20-24 years of age group (55%). Based on the level of education, most respondents were graduated of high school (51%). They had been employed (57%), although some of them were students (37%) and housewives (6%).

Before the cluster analysis performed, assumptions test of multicollinearity and outlier must be fulfilled. Multicollinearity test was performed on 98 respondents and the data showed that all data fulfilled these assumptions. On the other hand, there were two data that did not meet the assumptions in the test of outliers and should be removed from the cluster analysis. Thus, the data processed in the cluster analysis was 96 respondents. The cluster analysis was performed with SPSS v.20 with the results listed in Table 1 concluding that there were three clusters in the market. Segments were then formed based on the three psychographic aspects i.e. motivation, health awareness, and lifestyle. The characteristics of each segment in detail were listed in Table 2.

DISCUSSION

The Target Consumers

Based on the results, there were three consumer segments formed by motivation, awareness of health and lifestyle. The first segment consisted of respondents with strong motivation to consume pigmented rice and believed in the good impact for their health condition. They enjoyed healthy lifestyle but did not bother to make others including family and friends to follow their healthier lifestyle. The second segment had a strong enough motivation to be healthy, and eager to engage others including family and friends to follow their lifestyle. The same willingness to ask family and friends to follow healthy lifestyle occurred in the third segment despite having the fewest percentages in number. It had characteristics of high health awareness and healthy lifestyle as the first segment.

The selection of segments to be targeted was based on the high level of health awareness, followed by healthy lifestyle and willingness to expand the market of pigmented rice. Regarding this, the second and third clusters were chosen because they were selective in choosing their healthy food meaning they were highly motivated to consume pigmented rice.

Pigmented rice as functional food could affect consumer's lifestyle to be a healthy one so it could be included in the class of psychological and health needs in Maslow's Theory [3]. This condition will make it easier for marketers to penetrate into the third segment of the market that has had a good healthy behaviors compared to penetrate into the first segment of the market that do not have a healthy lifestyle.

The third cluster had a small proportion of consumers but it has the potential to become the influencers. Consumers in the third segment could persuade others. This is supported by 81% (n = 13) of the respondent that agree to be active in disseminating information related to healthy benefits including by consuming pigmented rice to their family and friends. The third segment was definitely right to be the primary target market.

Positioning of Pigmented Rice

The determination of the target market was then continued by positioning of the pigmented rice. Positioning can be performed as to highlight the benefits. Based on the health benefits to be obtained by the consumer, they had willingness to buy even though they admit it was expensive. Cluster 2 and Cluster 3 were perfect to be targeted in such positioning. Accordingly, it can be formulated positioning as "pigmented

TABLE 2: Consumers Characteristic based on psychographic aspects.

Consumers Characteristics		
Cluster 1	Cluster 2	Cluster 3
<p>•<i>Motivation</i>: Strong, the consumers were motivated to consume pigmented rice for health reason; evidenced by 94% believed that it can improve health condition, 62% believed that it can cure diseases, 60% of respondents did not try</p> <p>•<i>Health awareness</i>: High, they were highly health aware; evidenced by 92% doing regular exercise, 62% fully paying attention to the information from electronic media, but only 17% were active to further disseminate the health information to family or friends, 49% were ready to leave fatty foods</p> <p>•<i>Lifestyle</i>: most of them have not led to a healthy lifestyle; evidenced by only 34% consuming a lot of vegetables and fruits rather than meat, 49% neutral in the urgent to be selective in food picks, 53% neutral in having regular diet, 49% did not bother to notice about nutrients that body needs</p>	<p>•<i>Motivation</i>: strong enough, the consumers were motivated to consume pigmented rice for health reason; evidenced by 91% believed that it can improve health condition, 58% believed that it can cure the disease, 62% of respondents did not try</p> <p>•<i>Health awareness</i>: High, they were highly health aware; evidenced by 100% doing exercise regularly, 79% paying attention to the information from electronic media, 67% were active to further disseminate the health information to family or friends, 91% were ready to leave fatty foods</p> <p>•<i>Lifestyle</i>: Healthy; evidenced by 73% consuming vegetables and fruits rather than meat, 91% being selective in choosing food, 94% had a regular diet, 58% paying attention to consider about nutrients that body needs</p>	<p>•<i>Motivation</i>: Not too strong, the consumers were motivated to consume pigmented rice for health reason; evidenced by 88% believed it can improve health condition, 32% believed it can cure diseases, 25% of respondents did not try</p> <p>•<i>Health awareness</i>: High; evidenced by 100% doing regular exercise 100% paying attention to information from the electronic media, 81% were active to further disseminate the health information to family or friends, 38% were ready to leave fatty foods</p> <p>•<i>Lifestyle</i>: Healthy; evidenced by 38% eat vegetables and fruits rather than meat, 63% being selective in choosing food, 63% had a regular diet, 50% paying attention to consider about nutrients that the body needs</p>

rice as functional food". The term functional food was considered to represent the existing benefits to be found in various types of plants. Anthocyanin antioxidants included in radical mechanism [7]. Anthocyanin pigments, have the potential efficacy to increase resistance to disease, improve liver cell damage (hepatitis and chirosis), preventing impaired kidney function, and effective in reducing cholesterol levels in the human body. Anthocyanins have been recognized as a health functional food ingredient because of its antioxidant activity to prevent narrowing of the arteries (atherosclerosis) and heart vessel disease (cardiovascular) [4]. In the health sciences, anthocyanin is one of the antioxidants that even in a small amount sufficient to effectively prevent the production of lipids LDL (Low Density Lipoprotein) [5]. In addition, the pigmented rice has a lower fat content compared to white rice. Pigmented rice has higher fiber content compared to white rice. High fiber content in foods can be useful for the treatment of obesity and diabetes mellitus.

Pigmented rice consumption could not be compared to white rice. Pigmented rice consumption could not replace the consumption of white rice. Therefore, as a healthy food intake, pigmented rice can be used together with white rice. In other words, pigmented rice can be used as a complement of white rice. This is supported by data from BKPP DIY that rice consumption index in Yogyakarta in the year of 2015 was 92.4 kg/capita/year, or about 7.7 kg/capita/month. Pigmented rice consumption data could be indicated that the index of consumption was 1.2 kg/capita/month. With such positioning, the target will have higher confidence in the consumption of pigmented rice with regard to the consumer's health. This positioning will be able to increase the motivation of pigmented rice consumers for the sake of their own health interest. The consumption would also supports the awareness of health as well as their lifestyle.

Marketing Strategy of Pigmented Rice

Formulation of pigmented rice marketing strategy was carried out for farmers or farmer's groups who produce pigmented rice, especially in the area of Yogyakarta. In the theory of marketing, niche marketing strategy can be adopted for this pigmented rice marketing. Based on this theory, the alternative marketing actions are as follows.

1. Promotions. Packaging is not only portray the main functions and protective packaged products from outside contacts but also serves as a media campaign. Pigmented rice packaging manufactured by competitors mostly already looks nice and attractive. The packaging of products by farmers is still very simple. This can be overcome by developing farmer's competencies regarding knowledge about proper packaging.
2. Highlighting the benefits of the product. Pigmented rice products have many health benefits and also trusted by 91% of consumers that believed it can improve their health. In addition, as many as 67% of consumers believed that pigmented rice diet can help them to be healthier. Farmers may highlight the product benefits in the label of the packaging and the inclusion of nutritional information and other related ones.
3. Improvement of the product quality must be more attractive and in line with the branding of products as a healthy food. It needs to be carried out because more than 50% of the respondents stated that the rice is still not clean and has impurity. Some farmers have been doing nice packaging for their product using plastic material only without sufficient information about the product.

4. Penetration rates. Targeted consumers mostly have revenue in lower middle income category. As many as 58% of consumers stated that the price of pigmented rice was expensive. It suggests the farmers to sell it at lower price. The first strategy to perform this will be through achieving the efficient supply chain.
5. Promotion to wholesalers and retailers. Farmers should conduct a campaign to attract the interest of distributors and retailers to sell their products. They will help the marketing process of the products to the end consumer without have to spend a lot of producer's resources.
6. Improve service quality by offering testing and warranty (quality assurance), in case rice that was consumed did not match the specifications. In addition, other services such as delivery service can be applied to improve the quality of service. This will increase consumer purchases and reduce the switching cost.

In addition, advertising along with farmers that produce complementary goods may increase the demand for a joint purchase of the two products in this case is pigmented rice along with white rice. Necessary understanding of the relationship between product demand and pricing of alternative products can help ensure the success of the marketing of products [6]. Recommended sales location for pigmented rice is through community market. In this case the community is promoting healthy lifestyle. Community market has the power to determine prices because farmers can specify a higher price than the price when they supply modern retailer. At the same time, consumers may obtain a lower price than that offered by modern retailer [2].

CONCLUSIONS

There were three segments of consumers identified in pigmented rice market in Yogyakarta. Segment 1 (49%) was dominated by women, single, 21-30 years old, high school graduate, employed, and earn less than Rp1,500,000. This segment was motivated to consume pigmented rice for health reason, high enough of health awareness, but did not have healthy lifestyle. Segment 2 (34%) was dominated by women, married, 21-30 years old, bachelor, employed, and earn less than 1.500.000. This segment had strong enough motivation to consume pigmented rice for health reason, high health awareness, and had healthy lifestyle. Segment 3 (17%) was dominated by women, single, 21- 30 years old, high school graduate, employed, and earn less than Rp1,500,000. This segment had not too strong motivation in the consumption of pigmented rice for health reason, high health awareness, and had

very healthy lifestyle. The selected market target was the segment 2 and segment 3 because it has the characteristics of health awareness and healthy lifestyles compared with segment 1, so that it has the potential to become influencers. Those two segments are eager to make others follow their healthy lifestyle.

Pigmented rice producers, in this case farmers and farmer groups, need to do a promotions to consumers by highlighting the health benefits of products, promotions on distributors and retailers, penetration rates, and improve product and service quality pigmented rice on the target consumer pigmented rice.

Based on this study, farmers need to rebrand their products with proper packaging as well as improving the physical quality of the products. In addition, farmers need to do promotions on healthy food communities such as through community market in Yogyakarta. Farmers or farmer groups will also need to improve not only the quality of products but also the quality of the services as well.

ACKNOWLEDGEMENT

This research was funded and a part of SEARCA Seed Fund for Research and Training (SFRT) Program on Pigmented rice for rural development research.

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