

An Analysis on Consumption of Cultured Yogurt in Thailand

-A choice experiment approach-

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1. Introduction

Cultured yogurt including lactobacillus is expected to function positively on health. Recently, consumption of this product is expanding due to consumers' concern on dietary and health in Thailand. Table 1 identifies this in comparison with other milk products.

Some manufacturers of this product, including the foreign companies, have issued their many differentiated items with various attributes. This study estimates the consumers' revealed preference on this product. To identify the actual Thai consumers' concerns on health and nutrition makes understandings about food market structure and helps to approach to the manufacturers' strategies in growing economy.

2. Data Collection

This paper adopts a choice experiment approach, and the survey was conducted at a fresh market in Bangkok metropolitan city in November 2010. Choice sets for the experiments and questions about consumer's characteristics were included in the authors' questionnaires. The selected attributes and their corresponding levels are shown in table 2.

Table1. Consumption of Milk Products (MB)

	JAN08	DEC09	DEC09/JAN08
Liquid Milk	28,789	35,849	124.5%
Uht Milk	8,029	9,583	119.4%
Soy milk	6,895	8,498	123.2%
Cultured Yog.	3,638	5,793	159.3%
Pasteurize Milk	2,682	3,371	125.7%
Tfd Uht Milk	2,572	3,123	121.4%
Uht Yog.	2,360	2,151	91.1%
Pasteurized Yog.	1,225	1,161	94.8%
Sterilise	1,005	1,603	159.4%
Tfd Pasteurize Mi	249	258	103.5%
Non Chilled	128	294	230.3%
Chilled	5	14	253.0%

Source: The Nielsen company IR data

Table2. Attributes and Levels

Attributes	Levels	
Manufacture:	¹ Betagen	Friesland.Foods.Foremost
	C.P.Meiji	Yakult
	Dutch Mill	
Variant	¹ Regler Fat	Low Sugar
	Low Fat	0 Fat
Flavour	¹ Plain	Mixed Fruit
	Orange	
Package	¹ 180ml*1	800ml*1
	115ml*1	115ml*6
	420ml*1	
Price (B/100ml)	41.2	54.7
	46.2	58.5
	49.4	

3. Estimation model and the Results

The results of the main effect and cross effect models estimation by Maximum likelihood estimation are presented in Table 3. Many of the variables are significant at the 5% level. However, the adjusted rho2 is small in both models.

Table 3 results of estimation

	main	cross effect model				
	effect	const.	Gender(M)	Age	Income	Freq. drink
const.	0.39112 (0.247)	0.48367 (0.169)				
price(b/100ml)	0.02969 (0.619)	0.43989*** (0.001)	0.01591 (0.785)	-0.0082*** (0.000)	-0.0072 (0.810)	-0.0207 (0.120)
C.P.Meiji	-0.2046* (0.097)	-0.6729 (0.239)	0.08887 (0.735)	-0.0238 (0.018)	0.45294*** (0.001)	0.07551 (0.473)
Dutch Mill	0.59618*** (0.000)	-0.2015 (0.698)	-0.0175 (0.941)	0.00516 (0.553)	0.20965* (0.079)	0.02315 (0.801)
Friesland.Foods.Fo	0.00319 (0.980)	-1.363*** (0.020)	-0.0988 (0.706)	0.00931 (0.340)	0.24008* (0.074)	0.15874** (0.048)
Yakult	0.91328*** (0.000)	-0.1346 (0.777)	-0.0991 (0.644)	0.00234 (0.770)	0.31803*** (0.004)	0.07666 (0.272)
Low fat	0.23827*** (0.012)	0.49918 (0.274)	0.38344* (0.057)	-0.0095 (0.218)	-0.0669 (0.516)	0.07342 (0.177)
Low Sugur	0.09773 (0.323)	0.33151 (0.469)	-0.0592 (0.780)	0.00659 (0.396)	-0.1033 (0.334)	-0.0817 (0.208)
Non Fat	0.42175*** (0.000)	0.08313 (0.841)	-0.3517* (0.069)	0.02074*** (0.003)	0.04917 (0.605)	-0.2195*** (0.005)
Mixed Fruits	0.22536*** (0.013)	-0.1272 (0.762)	0.27757 (0.143)	0.01183 (0.097)	-0.041 (0.672)	-0.0549 (0.226)
Orange	-0.0041 (0.965)	-0.1509 (0.735)	-0.2595 (0.205)	0.00852 (0.252)	-0.1796* (0.074)	0.1399* (0.072)
115ml*1	0.08355 (0.440)	-0.2761 (0.587)	-0.2023 (0.375)	-0.0022 (0.790)	0.13204 (0.238)	0.07289 (0.345)
115ml*6	0.04809 (0.677)	0.4442 (0.408)	0.05534 (0.820)	-0.0115 (0.208)	0.04226 (0.728)	-0.01 (0.902)
420ml*1	-0.0319 (0.775)	0.29348 (0.562)	0.03172 (0.891)	-0.0067 (0.432)	0.00443 (0.970)	-0.0137 (0.818)
800ml*1	0.02126 (0.852)	0.93047* (0.069)	0.00105 (0.997)	-0.0128 (0.153)	-0.1517 (0.217)	0.01668 (0.769)
Adj.rho2	0.0615	0.10036				
Maximum LL	-1456.9	-1369.1				
Obs.	1189	1184				

Source: Authors' estimation

In attribute of manufacture, Yakult is the most proffered manufacture among the 5 brands in the main effect model. According to the result of estimation of the cross effect model, Yakult and C. P. Meiji are proffered by higher income respondents. And respondents who purchase cultured yogurts frequently have higher probabilities to choose Friesland Foods Foremost. In attribute of variant, coefficients of low fat and non fat levels are positive significantly, indicating a higher preference of Thai consumers on low or non-fat products. For male, low fat products are preferred and female prefer to non-fat one. Elder consumers like non-fat products but consumers who purchase cultured yogurt frequently do not like non fat products.

In attribute of flavor, mixed fruits flavor is most preferred. The package coefficients in both models are not significant.

The price coefficient in the main effect is not significant. But in the cross effect model, the price coefficient has a significantly positive constant. This result opens a room for the further discussions.

4. Conclusion

This paper investigates the significant Thai consumer's characteristics in their evaluation on cultured yogurt attributes. Considering of marketing in Thai cultured yogurt market, the findings presented by this paper may be useful information.