Consumer Preference for Handcrafted Soaps Made from Fruit Waste Products in North Cotabato, Philippines

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Introduction

- Calamansi is a major agricultural item in the Philippines
- The Bureau of Agriculture and Statistics (BAS, 2013) recorded a 21% drop in calamansi price due to smaller fruit sizes
- Wasted crops have detrimental impacts on local economies in a region of the Philippines
- Entrepreneurship using the production of added value products can also be a viable livelihood alternative.

- Addressing the problem of fruit and vegetable waste
- Soap production microbusiness is interested in producing soap out of tomato and calamansi
- Knowledge of consumers' preferences for soap can assist in developing the domestic market of value-added soap in the Philippines

OBJECTIVES

The goal of this study is to provide valuable market information for soap producers that will also add to the body of research on marketability of upgraded vegetable and fruit waste products.

The main objectives are:

(1) Define attributes and levels of hand-crafted soap products, with a focus on calamansi and tomato soaps;	(3) Calculate Willingness-to-Pay for calamansi and tomato soaps products ;
(2) Use Conjoint Choice Experiment (CCE) to determine consumer preferences for each of the attributes;	(4) present findings to local soap makers and stakeholders.

Step 1

- Determine the attributes and levels of handcrafted soap
- These attributes and levels were determined by focus group discussion, literature review, and local market information

Step 2

- Designing the choice profile questions and survey questionnaire
- Using Sawtooth Inc. SSI Web to design the survey questionnaire. Surveys contain three sections: introduction, the choice profile questions, and socio-demographic questions

Step 3

- Administer the survey and collect data in the study area
- The 250 respondents were asked face-to-face to complete the surveys in six different locations in North Cotabato, Philippines last November 19-20th, 2014.

Step 4

- Analyze data by using Sawtooth Latent Class software based on Latent Class Analysis (LCA)
- The probability for individual n in class m choosing product profile i, P(i), is measured using two types of characteristics: (1) product attributes and (2) individual socio-demographic factors. An example of the preference model is below, where (A, B, C, D, E, F, G, H) represents the attributes. P $(i/C) = f (PR_{in}, T_{in}, F_{in}, S_{in}, B_{in})$

Example of Survey Card

Attributes	Option 1	Option 2	Option 3
If these were your only options for soap, which would you choose?			
Type	Calamansi	Regular (Nothing Added)	Tomato
Form	Oil Based (Not Clear)	Oil Based (Not Clear)	Glycerin (Clear)
Brand	International	Local Artisan	National
Size	1 Large Bar (120g)	1 Large Bar (120g)	3 Small Bars (40g Each)
Price	80 PHP	65 PHP	100 PHP

Socio-Demographic of the Survey Respondents

	Description	Respondents (over 18)	North Cotabato Province population 2010
Gender	Female	55.2%	**48.5%**
	Male	44.8%	**51.5%**
Marital Status	Married	59.2%	**48.8%**
	Single	39.2%	**43.1%**
	Others	1.6%	**8.1%**
Age*	18-24	24.4%	**17.4%**
	25-39	41.6%	**39.7%**
	40-59	26.8%	**32.2%**
	60 and over	7.2%	**10.7%**

*Percentage estimated by controlling for the exclusion of the under-18 age group to allow comparison to 100% of the sample
Source: National Statistic Office. (2013). Recorded Population of Cotabato (North Cotabato) Reached 1.2 Million (Results from the 2010 Census of Population and Housing. Reference Number: 2013-134. Retrieved from http://census.gov.ph/content/recorded-population-cotabato-north-cotabato-reached-12-million-results-2010-census

Results

Size Seeking Cluster
24.10%
Want Lower Price
Prefer:
Calamansi Soap
One Large Bar
Do Not Prefer:
Tomato Soap
Regular Soap

Brand Seeking Cluster
6.90%
Prefer:
Tomato Soap
International Brand
Do Not Prefer:
Calamansi Soap
Regular Soap
National Brand
Local Artisan Brand

Price Sensitive Cluster
12.70%
Want Lower Price
Prefer:
Oil Based Soap
One Large Bar
Do Not Prefer:
Glycerin Soap
International Brand
Three Small Bars
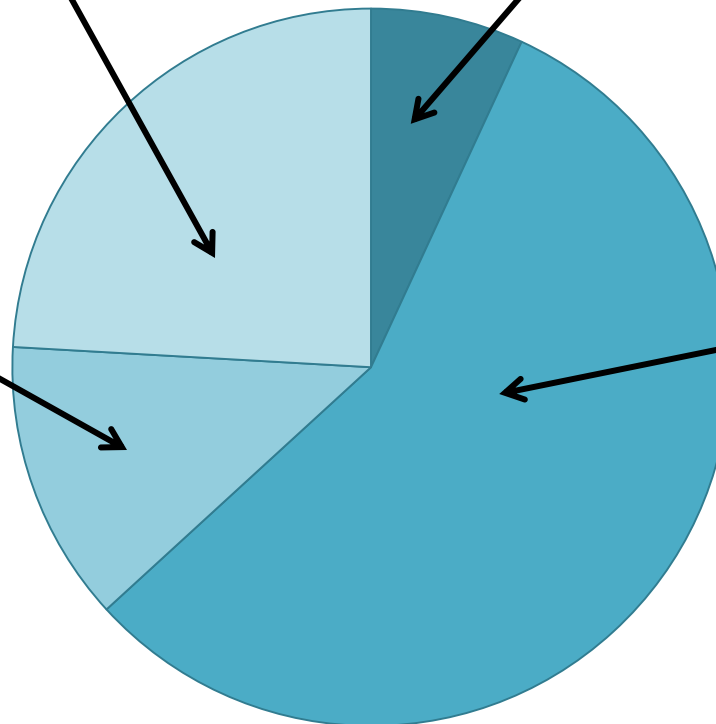
Type Seeking Cluster
56.30%
Want Lower Price
Prefer:
Calamansi Soap
Regular Soap
Do Not Prefer:
Tomato Soap

Willingness-to-Pay for Handcrafted Soaps

	Price Sensitive Cluster	Type Seeking Cluster	Size Seeking Cluster
Class Sizes	12.7%	56.3%	24.1%
Type			
Calamansi over Tomato		23.10 Php	66.00 Php
Calamansi over Regular		14.60 Php	50.60 Php
Form			
Oil based over Glycerin	2.22 Php		
Size			
1 Large Bar (120g) over 3 Small Bars (40g Each)	3.00 Php		9.00 Php

- The four class model revealed four distinct clusters; brand seeking, price sensitive, type seeking, and size seeking.

- These clusters can be utilized by soap producers in revealing which population to focus specific attributes on.

- For handcrafted soap producers interested in utilizing agricultural waste for added value products, it is recommended to look into using calamansi for soap. Tomato soap is not considered a preferred product at this moment.

Thank you!

Any Questions?
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