Analysis Of Correlation Between Brown Sugar Attributes and The Consumer Preferences

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Abstract: The study aims to observe the determinants of consumer's behavior in purchasing brown sugar in S.E. Sulawesi, and to analyze the correlation between various attributes of brown sugar and consumer preferences. Descriptive and quantitative analysis (Chi-Square) was used in this study. The result of this study showed that: first, the majority of brown sugar consumed by the people in S.E. Sulawesi is Kabaena brown sugar. Most of the respondents's reason using brown sugar is to make cake, and the least reason is for health. This shows that the health aspect of brown sugar is not fully known by the people of S.E. Sulawesi. Second, brown sugar attributes that has correlation with consumer preferences in S.E. Sulawesi namely brown sugar price, place of purchasing, and its attributes (color, taste, texture, size, flavor, and packaging). In addition the domicile of the respondent also correlates with the preferences. Implication of this study indicated that the developing of various atributes of brown sugar has existing share and increasing possibility of brown sugar agribusiness.

Keyword: brown sugar, price, place of purchasing, quality, consumer preference, correlation

1 Introduction

Sugar has been widely used as an ingredient in daily food and beverages in Asian communities (Singsoong et al., 2010). Brown sugar is getting more attention nowadays due to worldwide interest in traditional taste and research findings about new health facts of sugar, especially. Coconut sugar has low a Glycaemic Index (GI) so it is good for diabetics and suitable for weight maintenance (Tablan, 2008; Philippine Coconut Authority,

2004). Some coconut sugar producing countries are Malaysia, Thailand, Philippines, Cambodia, India and Indonesia.

Budiningsih, (2004) stated that agro industry is a subsystem which forms agribusiness system resulting a big multiplier effect; an extra-value. Moreover, the activity on agro industry can increase income, employment and helps overcoming the abundance of raw materials, especially during the harvest season. For small or household agro industry could survive by utilizing excess labor.

One of household agroindustry that has been run for long time by the people in S.E. Sulawesi is brown sugar agro industry. Sugar processing business is an effort to diversify sugar and increase the utilization of palm sap economically and to stimulate the participation of rural communities in this small industry and as a part of creating jobs to increase the family income even though the processing is still using simple equipment or done traditionally with limited human resources.

S.E. Sulawesi is a region that produces palm sugar which is known as brown sugar. Potential areas include Kabaena, Kolaka, Poleang, South Konawe, Muna and Pinanggo. Most of the brown sugars in S.E. Sulawesi made from palm sap except in Konawe Selatan District, mostly the craftsmen in the district make the sugar from coconut sap. Each region produces brown sugar with different characteristic.

The research previously conducted by Rianse and Abdullah (2012), showed that the price of Muna sugar was in the range of $2.27/kg until $2,45/kg, while preliminary observations in Kendari traditional market, indicated that Kabaena brown sugar had ever raised up to one hundred percent. In the market, the selling price of sugar reached $1.36/kg, whereas on previous sale it was only $0.64/kg. The price which increased up to 100% is Kabaena sugar, whereas Kendari sugar remained stable, no increasing at the price. Currently, Kabaena sugar and Muna compete with Bugis brown sugar from South Sulawesi, which is relatively cheaper. This helps the consumers to have an alternative in purchasing sugar at a cheaper price. In other hand, this situation is a threat to the survival the business of Kabaena brown sugar proceed.

Widodo (2002) there are several basic assumptions of the theory of consumption: *First*, the full knowledge; consumers have perfect knowledge about the goods and services that will be used which consists of some assumptions that (a) the consumer is aware of the goods and services, (b) consumer has a response/reaction to the presence of goods and services, so that consumer prefers the specific goods/services than other goods/services provided, and (c) the consumer has a certain amount of money that causes the responses to be real in the market. *Second*, the preference function which consists of assumptions: (a) ranking order; consumer has an order list of items or groups of items (market basket) from most preferred to non-preferred, (b) two kinds of items or groups of items i.e. items A and B, there are three possibilities, namely: (1) A is preferred over B, (2) B is preferred than A and (3) A is indifference to B. *Third,* the transitivity; if A is preferred over B, and B preferred over C, then A is

preferred than C. *Fourth,* the unsaturation or unsanitary; group of items that contain a certain amount of goods that would be preferable.

Consumer behavior will determine the purchasing decision process (Swastha and Handoko, 1987). The process is a problem-solving approach consists of five phases, namely (1) analyzing or recognizing needs and desires, (2) information searching and assessment of resources, (3) assessment of alternative selection on the purchasing, (4) the decision for purchasing and (5) post-purchasing behavior. All these processes are not always done by the consumer in the purchasing, because of the emotionally purchasing.

About consumer behavior also said by Solomon et al. (2010) that it have provided comprehensive knowledge about the intervening variables of usage. In addition, Sporleder, et al. (2014) said that price and quality are the most important attributes in making purchase decisions in supermarkets.

There is consumer's satisfaction in consumer behavior. Nazar (1990) stated that utility function of consumers is a level of satisfaction as a function of the goods or services consumed (current or future) and in leisure time in which it enjoyed after consumers gain revenue, by assuming that no change in consumer desires. According to the utility theory, in order to maximize satisfaction in accordance with the limited income, consumers are assumed to have a preference so that behavior becomes the followings: (1) reflection, that every commodity is commodity bundle itself, (2) completeness, which assumes that a consumer would prefer one commodity from the other commodities or indifference between both of them or determine rank or ordering option (choice, preference) from the commodity packet, (3) transitivity, that assumes that consumer choice is always consistent, if A is preferred to B, and B is preferred to C, then A is more preferable than C, and (4) continuity, which means that the used of goods and services can be shared and varied in the amount consumed can be divided and variations in the amount consumed can be separated in a very small unit (Nicholson, 1995). Base on four assumptions above, we can formally show that humans are able to sort all possible situations from least desirable to most desirable. It is supported by Melkis, et al. (2014) who said that Product influences customer's satisfaction. The products refers to types and variety of meal set or package.

The purposes of this study are (1) to observe the determinants of consumer's motivation in purchasing brown sugar in S.E. Sulawesi, and (2) to analyze the correlation between various attributes of brown sugar and consumer preferences.

2 Problem Formulation

This study conducted in Kendari City, Muna District, Bau-Bau City and Bombana District. The population is all brown sugar consumers. Due to the number of population is not known, than the sampling method uses *snowball sampling*.

Data used in this study, consist of: (1) a primary data sourced from survey and systematic interview results to the consumers of brown sugar. The primary data includes: the identity of respondents, brown sugar price, and the price of other goods related to the brown sugar and (2) secondary data taken from BPS of S.E. Sulawesi, related institutions, articles, books, and journals related to the study.

There are three data collection techniques used in this study, namely: (1) survey techniques: a method of collecting information from the sample by using the structured questions or questionnaires, (2) noting technique: a method of data collection by noting information, supporting data from relevant agencies/institutions, and (3) literature review: a method of collecting information by looking at text-books, research journals, and other relevant materials as a theoretical basis in this study.

Data analysis methods used in this study are: (1) descriptive analysis that used to describe consumer's motivation in consuming the brown sugar in S.E. Sulawesi. It was done by looking at the results and drawing conclusions from primary data obtained by direct interview and (2) the correlation between consumer preferences with brown sugar attributes and domicile of respondents, use the following method, by one hypothesis.

Hypothesis: it assumed that there is a correlation between consumer preferences with brown sugar attributes (price, place of purchase, colour, size, texture, taste, flavor and packaging) and the domicile of the respondents.

To test the hypothesis, used interdependency *chi-squares test* (X^2) (Simamora, 2004).

$$x^2 = \sum_{i=1}^{N} \left[\frac{(fo - fe)^2}{fe} \right] \quad \text{...............................} \quad [1]$$

Where:
fo   = frequency of observations
fe   = frequency of expectation
i   = number of samples = 1,2,3 ....N

X^2 table : (α ; [number of rows - 1) x (number of columns -1)])

Where:

$$fe \quad = \quad \frac{ri \; x \; ci}{\Sigma ri}$$

....[2]
Description:
ri   : The number of row to-i
Ci   : Number of column to-i
Σri : Number of Observations
The hypothesis to be tested is:
Ho : ri = 0
Ha : ri ≠ 0
Testing criteria:
- If x^2 where at (α = 5%) ≥ 0, then H_0 is accepted. It means there is no correlation between the rows and columns, or no differences in consumer preferences based on the attributes of brown sugar.
- If x^2 where at (α = 5%) ≤ 0, then H_0 is rejected. It means that there is a correlation between the rows and columns, or there are differences in consumer preferences based on the attributes of brown sugar.

3 Problem Solution

3.1 Characteristics of brown sugar

Brown sugar in S.E. Sulawesi made of two kinds of saps, mostly made of palm tree and some made of coconut sap. The brown sugar consists of 9 variants, namely Muna sugar, Kabaena sugar, Konawe Selatan sugar, Kolaka sugar, Poleang sugar, Poea sugar, Pinonggo sugar, Bone sugar and Kendari sugar. The most desirable type of consumers is shown in Table 1.

The Table 1 indicates that there is more numbers of interested sugars at each study location than the amount of its respondent, because there are some respondents who liked more than one types of brown sugar, but actually they also prefer brown sugar that favored by the majority of consumers in research location. The most desirable brown sugar in Kendari is Kolaka sugar (70.96 %). The most desirable sugar in the city of Raha is Kabaena sugar (75.71 %). The sugar mostly desired in Bau-Bau City is Kabaena sugar (75.715%). The most desirable sugar in Bombana regency is Poleang sugar (55.32 %).

Table 1. The variant of brown sugar

No	Variant of Brown Sugar	Location							
		Kendari		Muna		Bau-Bau		Bombana	
		Σ	%	Σ	%	Σ	%	Σ	%
1	Muna Sugar	9	0.7	146	44.51	0	0.0	0	0.0
2	Kabaena Sugar	17	1.3	166	50.61	268	75.7	5	3.6
3	Konsel Sugar	275	20.4	6	1.83	26	7.3	1	0.7
4	Kolaka Sugar	958	71.0	6	1.83	3	0.8	2	1.4
5	Poleang Sugar	25	1.8	3	0.91	6	1.7	78	55.3
6	Kendari Sugar	9	0.7	0	0.00	43	12.2	0	0.0
7	Bone Sugar	57	4.2	1	0.30	8	2.3	2	1.4
8	Poea Sugar	0	0.0	0	0.00	0	0.0	11	7.8
9	Pinang-go Sugar	0	0.0	0	0.00	0	0.0	42	29.8
	Total	1350	100.0	328	100.00	354	100.0	141	100.0

Source: Primary Data, 2013

The nine variants of brown sugar in S.E. Sulawesi vary on price, color, taste, texture, size, flavor, and packaging. It is hard to find the same size of brown sugar in S.E. Sulawesi, it can be caused by the different size of mold. There are various kinds of brown sugar Packaging, namely: palm leaves which is usually synonymous with Muna sugar packaging, from *Lapi* leaves are commonly used as packaging of Kolaka sugar, banana leaves are used for packing Poleang sugar, Bone, and Poe. Corn husk is used for packing Kabaena sugar, while sugar of Pinonggo, Konawe Selatan and Kendari sugar packaged with plastic sachet.

3.2 Description of consumer motivation on brown sugar

Consumer ratings of brown sugar on the decision to consume motivated by a variety of reasons. The details can be seen in the following Table 2.

Table 2. Motivation of brown sugar consumption by respondents

No	Motivation of consuming Brown Sugar	Location							
		Kendari		Muna		Bau-Bau		Bombana	
		Σ	%	Σ	%	Σ	%	Σ	%
1	Habit	160	10.38	36	11.11	0	0.00	1	0.70
2	Health	48	3.11	8	2.47	0	0.00	1	0.70
3	Daily food	244	15.83	50	15.43	40	11.36	9	6.29
4	Daily drink	55	3.57	54	16.67	6	1.70	3	2.10
5	Food for Sale	87	5.65	19	5.86	27	7.67	4	2.80
6	Making cake	769	49.90	115	35.49	166	47.16	84	58.74
7	Others	178	11.55	42	12.96	113	32.10	41	28.67
	Total	1541	100.0	324	100.0	352	100.0	143	100.0

Source: Primary Data, 2013

The Table 2 above shows that the respondents have varied motivations or reasons to consume sugar. Most of the respondents consume brown sugar just to make the cake, as most of the cakes in S.E. Sulawesi using brown sugar. In other hand the motivation for health is the least at each study location. This shows that the health benefits from brown sugar is not fully realized by the people of S.E. Sulawesi.

3.3 Correlation between attributes of brown sugar with the consumer preferences in S.E. Sulawesi

Consumer preferences for the brown sugar is assumed relate to the price of brown sugar, brown sugar attributes (color, taste, texture, size, flavor, and packaging), and area of respondent's domicile. This is suitable with the study of Azabagaoglu and Gaytancioglu (2009) to rice consumer preference. In their study, the rice purchasing behavior of the consumers are clasified and grouped under: reason for the selection of the kinds of rice, package preference, location of purchase, packaging and frequency of purchasing rice.

1. Chi- Squares (X2) brown sugar price

The prices analyzed and tested with the chi-square is the price accepted by the respondent at the time of purchasing sugar. The correlation between sugar prices with consumer preferences shown in the Table 3 below.

Table 3. The correlation between brown sugar prices with consumer preferences

Chi-square tests	Value	df	Sig (2-sided)
Pearson Chi-Square	1990.801[a]	240	0.000
Likelihood Ratio	1606.535	240	0.000
Linear-by-Linear Association	130.629	1	0.000
N of Valid Cases	2159		

Sources: Analysis of Primary Data, 2013

Based on the results of the chi-square test for sugar prices in Table 3 above, it can be seen that the value $X^2 count$ indicated by the value for *person chi-square* in the above table is 1990.801. H_0 is rejected because X^2_{count} with significance level (α) = 5%. It mean that there are differences in consumer preferences based on the price of sugar. It can explained that the price of brown sugar has strong correlation with the consumer preference. This is suitable with demand theory. It supported by the study result of Prakash (2011) that there is imperative necessity on the part of the manufactures to supply the products at competitive prices and at the same time should see the quality of the product.

2. Chi-squares (x^2) location of purchasing brown sugar

Brown sugar is currently sold not only in traditional markets but also in supermarkets or delivered directly by the producers or the seller (delivery). The correlation between the purchasing brown sugar and the preference of the respondents shown in the Table 4.

Table 4. The correlation between sugar purchasing location and consumer preferences

Chi-square tests	Value	df	Sig (2-sided)
Pearson Chi-Square	46.160[a]	24	0.004
Likelihood Ratio	41.157	24	0.016
Linear-by-Linear Association	2.634	1	0.105
N of Valid Cases	2159		

Sources: Analysis of Primary Data, 2013

The results of *the chi - squares* test for the place of purchasing sugar on Table 4 show that the value of X^2_{count} indicated by the value *for the Pearson chi - square* in the table above is 1990.801. H_0 is rejected because X^2_{count} with significance level (α) = 5%. It means that there are differences in consumer preferences based on the location of purchasing brown sugar. It can explained that most respondent purchased brown sugar in the traditional market. The responden who purchased brown sugar in the traditional market of Muna District and Bau-Bau City prefer to brown sugar from Kabaena and brown sugar from Kolaka and Konawe Selatan District for responden in the traditional market of Kendari city.

3. Chi- squares (X^2) the color of brown sugar

Each type of brown sugar has a variety of colors, grouped into three types: dark brown, brown and yellowish brown as shown in Table 5 below.

Table 5. The correlation between the color of brown sugar and consumer preferences

Chi-square tests	Value	df	Sig (2-sided)
Pearson Chi-Square	222.252[a]	32	0.000
Likelihood Ratio	236.008	32	0.000
Linear-by-Linear Association	15.776	1	0.000
N of Valid Cases	2159		

Sources: Analysis of Primary Data, 2013

The Table 5 above shows that the value of X^2_{count} indicated by the value of *the Pearson chi - square* in the above table is 222.222. H_0 is rejected because X^2_{count} with significance level (α) = 5%. It means that there are differences in consumer preferences based on the color of brown sugar. It is suitable with the study of Kusumawaty et al., (2012) that in terms of the color criteria for coconut sugar, there are differences in color which is considered to be good quality by producers, traders and industry. The majority of producers (40%) prefer a paler color (yellowish). This does not match the color criteria preferred by both the traders and food industries, as the majority of traders (60%) and food industries (60%) require reddish brown coconut sugar.

4. Chi- Squares (X^2) brown sugar taste

Each type of brown sugar also has varied taste. It grouped into several tastes: very sweet, sweet, and sweet crunchy, sweet moist, sweet salty, and bitter. The taste of brown sugar with consumer preferences shown in the Table 6.

Table 6. The correlation between the tastes of brown sugar and consumer preference

Chi-square tests	Value	df	Sig (2-sided)
Pearson Chi-Square	411.967a	40	0.000
Likelihood Ratio	406.997	40	0.000
Linear-by-Linear Association	47.567	1	0.000
N of Valid Cases	2159		

Sources: Analysis of Primary Data, 2013

The result of *chi - squares test* on the table shows that the value of X^2_{count} indicated by the value of the Pearson chi-square in the above table is 411.967. H_0 is rejected because X^2_{count} with significance level (α) = 5%. It means that there are differences in consumer preferences based on the brown sugar taste. It can explained that responden purchased brown sugar in seven taste namely very sweet, sweet, sweet crunchy, sweet moist, sweet salty, sweet and bitter, but the most taste prefer is sweet brown sugar. It is brown sugar from palm sap that produce at Kolaka and Kabaena District.

5. Chi- squares (X^2) brown sugar texture

Each type of brown sugar would also have a different texture. Therefore, the textures grouped into: very solid, solid, quite solid, hollow, and very hollow. The correlation between textures of brown sugar and consumer preferences can be seen in the following Table 7.

Table 7. The correlation between brown sugar textures and the consumer preferences

Chi-square tests	Value	df	Sig (2-sided)
Pearson Chi-Square	275.205a	40	0.000
Likelihood Ratio	232.462	40	0.000
Linear-by-Linear Association	47.940	1	0.000
N of Valid Cases	2159		

Sources: Analysis of Primary Data, 2013

The result shows that the value of X^2_{count} indicated by the value of the Pearson chi-square in the table is 411.967. H_0 is rejected because X^2_{count} with significance level (α) = 5%. It means that there are differences in consumer preferences based on the texture of brown sugar. It can explained that the purchasing of brown sugar determined by the texture of brown sugar. The texture influenced its volume. Brown sugar from palm sap is more solid than

brown sugar from coconut sap. Most of responden prefer to brown sugar from palm sap that has more solid texture.

6. Chi- squares (X^2) brown sugar sizes

Each type of brown sugar would also have different sizes. The correlation between the size of the brown sugar and consumer preferences shown in the Table 8.

Table 8. The correlation between brown sugar size and consumer preferences

Chi-square tests	Value	Df	Sig (2-sided)
Pearson Chi-Square	295.980a	32	0.000
Likelihood Ratio	317.507	32	0.000
Linear-by-Linear Association	52.893	1	0.000
N of Valid Cases	2159		

Sources: Analysis of Primary Data, 2013

From Table 8, it can be seen that the value of X^2_{count} indicated by the value of the Pearson chi-square in the table is 295.980. H_0 is rejected because X^2_{count} with significance level (α) = 5%. It means that there are differences in consumer preferences based on the size of the brown sugar. It can explained that the brown sugar size determined consumer preference in purchasing brown sugar. The middle size of brown sugar become favorite size for most of responden. The size of brown sugar from palm sap is bigger than brown sugar from palm sap.

7. Chi- squares (X^2) flavor of brown sugar

Each type of brown sugar would also be preferred because its flavor, everyone's preferences varies. The relevancy between the sugar's flavor with consumer preferences shown in the Table 9.

Table 9. The correlation between flavors of brown sugar and consumer preferences

Chi-square tests	Value	df	Sig (2-sided)
Pearson Chi-Square	60.492a	32	0.002
Likelihood Ratio	46.961	32	0.043
Linear-by-Linear Association	5.747	1	0.017
N of Valid Cases	2159		

Sources: Analysis of Primary Data, 2013

The result shows that the value of X^2_{count} indicated by the value of the Pearson chi-square in the table is 60.492. H_0 is rejected because X^2_{count} with significance level (α) = 5%. It means that there are differences in consumer preferences based on brown sugar flavor. It can explained that brown sugar flavor determined the purchasing of brown sugar in every market, modern or traditional market.

8. Chi- Squares (X^2) brown sugar packaging

Each type of brown sugar in S.E. Sulawesi has a diverse package. It is not only plastic package but also of material of leaves likes, *lapi* leaves, banana leaves, palm leaves, and midrib corn cobs. The relevancy between the sugar packaging with consumer preferences shown in Table 10.

Table 10. The correlation between brown sugar packaging with consumer preferences

Chi-square tests	Value	df	Sig (2-sided)
Pearson Chi-Square	1929.340a	40	0.000
Likelihood Ratio	1687.994	40	0.000
Linear-by-Linear Association	30.214	1	0.000
N of Valid Cases	2159		

Sources: Analysis of Primary Data, 2013

Table 10 above shows that the value of X^2_{count} indicated by the value of the Pearson chi-square in the table above is 1929.340. H_0 is rejected because X^2_{count} with significance level (α) = 5%. It means that there are differences in consumer preferences based on the packagin of brown sugar. It can explained that packaging types of brown sugar determine the responden in purchasing brown sugar. The types of that packaging influence durability and texture of brown sugar. Most of respondent prefer to brown sugar with banana leaves packaging.

9. Chi- Squares (X^2) Domicile of Respondents

Domicile of the respondent may be correlated with a preference for dealing with the availability of brown sugar on the respondent markets where they live. It shown in the Table 11.

Table 11. The correlation between domicile of respondents with consumer preferences

Chi-square tests	Value	df	Sig (2-sided)
Pearson Chi-Square	3827.798a	24	0.000
Likelihood Ratio	2908.030	24	0.000
Linear-by-Linear Association	212.497	1	0.000
N of Valid Cases	2159		

Sources: Analysis of Primary Data, 2013

The Table 11 above shows that the value of X^2_{count} indicated by the value of the Pearson chi-square in the table above is 3827.798. H_0 is rejected because X^2_{count} with significance level (α) = 5%. It means that there are differences in consumer preferences based on domicile of the respondent.

Respondent's domicile refers to their culture that influence about what kinds of brown sugar they are like. Platz and Veres (2014) observed about the influence of culture to consumer preference. Their study result is different with this study. They found that insignificant cultural differences to the consumer preference. It can be explained that this study done in large scope area so that there is a large variation culture than can influenced the consumer preference.

Variables that observed in this study is suitable with the Moser et al. (2011) who said that visual, smell, and aroma components were

often top rated in impacting purchase decision of consumer.

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4 CONCLUSION

The majority of brown sugar consumed by the people in S.E. Sulawesi is Kolaka sugar and Kabaena sugar. Most of the respondents's reason using sugar is to make cake, and the least reason is for health. This shows that the health aspect of brown sugar is not fully known by the people of S.E. Sulawesi. Second, brown sugar attributes that has correlation with consumer preferences in S.E. Sulawesi namely brown sugar price, place of purchasing, and its quality (color, texture, taste, size, and flavor). In addition the domicile of the respondent also correlates with the preferences.

Implication of this study indicated that the developing of various atributes of brown sugar has existing share and increasing possibility possibility of brown sugar agribusiness.

This study recomended to the producer to give more attenttion to brown sugar attributes in developing the agribusiness of brown sugar and supported by the goverment, also.

References

[1] Azabagaoglu, M.O., and O. Gaytancioglu. *Analyzing Consumer Preference to Different Rice Varieties in Turkey*. Agricultura Tropica et Subtropica Journal. 42(3), 2009, pp 118-125.

[2] Budiningsih, Sulistyani. Efisiensi dan Faktor Internal Eksternal Agroindustri Gula Kelapa Di Kecamatan Cilongkok Kabupaten Banyumas, *Tesis*. Universitas Gadjah Mada. (*Unpublished*), 2004.

[3] Buwono H.X. *Otonomi Pembangunan Pertanian dalam Pembangunan Pertanian dalam Otonomi Daerah*. Edisi Revisi LP2KP Pustaka Karya Yogyakarta. (In Indonesian), 2001.

[4] Kusumawaty, Y., E. Maharani, S. Edwina. *Perceived Quality Of Coconut Sugar By Producers, Traders And Downstream Industries In Indragiri Hilir District, Riau Province, Indonesia*. Journal of Agribusiness Marketing. 5(2012), 2012,pp 1-13.

[5] Melkis, M., M.F. Hilmi, and Y. Mustapha. 2014. *The Influence of Marital Status and Age on the Perception of Fast Food Consumer in an Emerging Market*. International Journal of Business and Innovation. 1(3):33-42.

[6] Moser, R., R. Raffaelli, and D. T. McFadden. *Consumer Preferences for Fruit and Vegetables with Credence-Based Attributes: A Review*. International Food and Agribusiness Management Review. 14(2), 2011, pp121-141.

[7] Nazar., F. *Ekonomi Mikro untuk Negara sedang Membangun*. UI Press, Jakarta. (In Indonesian), 1990.

[8] Nicolson, W. "*Microeconomic Theory.*" Basic Principles and Extensions, Seven Edition Amherst College; Dryden Press USA, 1998.

[9] Platz, P., and Z. Veres. *Understanding Consumer Preference Biases*. Journal of Applied Economics and Business. 2(1), 2014. pp 105-119.

[10] Prakash, C. 2011. *Consumer Preference to Health Drinks in Tiruvarur Town*. Asian Journal of Management Research. 2(1), 2011, pp 420-427.

[11] Rianse, U dan W. G. Abdullah. *Analisis Disekonomi Dampk Kerusakan jalan Poros Kendari-Torobulu dan Tampo-Wamengkoli terhadap Eksistensi dan Keberlanjutan agribisnis Aneka Palma di Provinsi Sulawesi Tenggara*. Laporan Penelitin Pakar. Universitas Haluoleo, Kendari. (In Indonesian), 2012.

[12] Rianse, U., La Rianda, and Abdi. *Kajian Perilaku Konsumen Gula Merah di Sulawesi Tenggara*. Laporan Penelitian Unggulan Perguran Tinggi. Universitas Halu Oleo. Kendari. (In Indonesian), 2013.

[13] Swastha, B.Dh. dan Handoko, T.H. *Manajemen Pemasaran; Analisa Perilaku Konsumen*. Liberty. Jakarta. (In Indonesian), 1987.

[14] Simamora, B. *Panduan Riset Perilaku Konsumen*. PT Gramedia Pustaka Utama. Jakarta. (In Indonesian), 2004.

[15] Singsoong, K., Benjapong, W., Nitithamyong, A., Tavichatwitayakul, R., Karnpanit, W., Moungsrichan, N. & Prakobsil, J. 2010. *Preservatives UsediIn Coconut Sap*. Toxicology Letters. 196S(2010), 2010, pp 337-351.

[16] Solomon, M., G. Bamossy, S. Askergaard and M. K. Hogg. *Consumer behaviour: a European perspective*. Harlow: Financial Times Prentice Hall, 2010.

[17] Sporleder, E.M., M. Kayser, N. Friedrich, and L. Theuvsen. *Consumer Preference for Sustainably Produced Bananas: a Discrete Choise Experiment*. International Food and Agribusiness

Management Review.17(1), 2014, pp 59-82.

[18] Tablan, E. *Benefits of coco sugar*. *Agribusinessweek*. Retrieved 9 October, 2008, from http://www.agribusinessweek. com. Access on April 2014.

[19] Widodo, S. *Ekonomi Mikro, Handout*. Program Pascasarjana, Universitas Gadjah Mada, Yogyakarta. (In Indonesian), 2002.