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Study on the Customer Perception of the Tropical Fruit Vinegar in Kelantan and Kuala Lumpur

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ABSTRACT
This research will be focus on the differences of perception of customers in Kelantan and Kuala Lumpur toward tropical fruits vinegar. Tropical fruit vinegar was used in this research with Rambutan and Dokong vinegar as the choice. Dokong and Rambutan are tropical seasonal fruits. The production quantity is getting higher these few years, and it results that farmers have to face all negative impact. Next, this study also reduces the import of vinegar product. Furthermore, this study also helps in fulfilling the national agenda in National Agro Food Policies 2011–2020. The amount of respondents are 108 in Kelantan and 69 in Kuala Lumpur. The major finding is Customers in Kuala Lumpur and Kelantan both accepts Natural Fruits Vinegar products. The result also shows that consumers are concern about the quality, safety, and nutritional content of products and prefer glass material for packaging than plastic material.

KEYWORDS
Agriculture; fruits; packaging; perception; tropical; vinegar

Introduction

Production of tropical fruits in Malaysia

In Malaysia, Dokong (*Lansium Domesticum Var. Duku)* commonly planted in Kelantan, Terengganu, Johor, Pahang, and Kedah. It is a seasonal fruit. While Rambutan (*Nephelium Lappaceum*) it is a commercial production is primarily concentrated in Thailand (the largest producer), Malaysia, Indonesia, Philippines, Australia, Sri Lanka, Vietnam, Honduras, and Hawaii. In Malaysia, rambutan is mostly planted in Kedah, Perak, Pahang, Johor, Kelantan, and Negeri Sembilan. Table 1 shows the planted area and production of Dokong and Rambutan from year 2009 to 2013 in Peninsular Malaysia.

Potential of value added products made by tropical fruits

There are a lot of products that had been developed by various factories and exist in current market. Tropical fruits are made into deserts, candy, drinks,

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Table 1. Fruit (Rambutan and Dokong) Production in Peninsular Malaysia from 2009 to 2013.

	DOKONG		RAMBUTAN	
Years	Planted area (ha)	Production (mt)	Planted area (ha)	Production (mt)
2009	12,366	28,632	22,257	71,232
2010	11,156	27,804	19,783	70,218
2011	10,934	23,854	18,650	63,345
2012	11,268	28,083	19,981	70,922
2013	11,998	29,902	21,276	75,518

Source: Department of Agriculture.

and beauty products such as body scrub and shampoo. As stated in Figure 1, here are some examples of value added products that made by Rambutan.

Varieties of vinegar in Asia and Malaysia

Vinegar is usually used as an ingredient for pickles making in Asian cuisine especially rice vinegar. Common vinegars as in Figure 2, Asia market, are white vinegar, black vinegar, balsamic, coconut, and cider vinegars. Compare to Taiwan and Japan, fruit vinegar usage in Malaysia is limited.

Marketing potential of vinegar products in global view

Figure 3 shows sales of vinegar at supermarket in America, and this reflects the great market demand of vinegar in United States in the year of 1995 to 2006. Top 10 Vinegar Exporters in the World show in Table 2 proven vinegar products having potential in global market.

Marketing potential of vinegar products in Asia and Malaysia

Fruit vinegar is Halal products, except for wine vinegar and balsamic vinegar. Over the past few years, natural vinegar market increases in

Figure 1. Examples of value added products made by Rambutan.

Figure 2. Varieties of vinegar products in Asia and Malaysia.

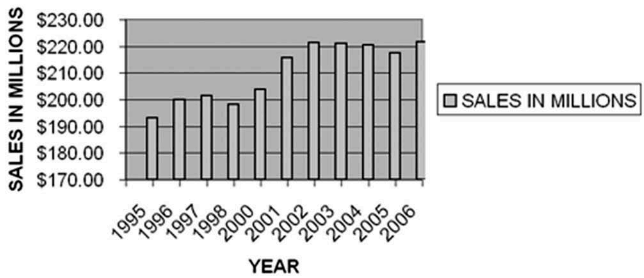

Figure 3. Supermarket Sales of Bottled Vinegar. Source: Yearly July or September issue of Progressive Grocer Magazine (part of Bill Communications in New York) that tracks sales of supermarkets having sales of $2 million or more.

Table 2. Top Ten Vinegar Exporters in the World.

Country	Exports (CAD$ millions)
Italy	$258
Germany	$31
Spain	$30
France	$27
United States	$17
Japan	$17
Greece	$14
United Kingdom	$10
China	$9
Austria	$6

Source: World's Top Ten Vinegar Exporters (2009), Agriculture and Agri-Food Canada.

line with the market's general movement toward more healthier lifestyle. Malaysia imports a lot natural vinegars from foreign country such as Europe, China, and America. Malaysia had many tropical fruits that can change to natural fruit vinegar; however, fruit vinegar production industrial still considers new in Malaysia.

Marketing potential of tropical fruits vinegar

Based on data collected from research team in the development of Tropical fruit vinegar, the nutrient values of tropical fruits are more or less same as others vinegar and the cost to produce the product are consider low. Investment return can be achieved in approximately 5 years. Figure 4 shows the sample of vinegar made from Dukung and Rambutans.

Malaysian consumer attitude toward choice of products

Food consumption patterns in Malaysia appear to be evolving in a similar pattern to other emerging Asian economies, most notably Thailand, China, and the Republic of Korea (Ishida et al., 2003; Warr et al., 2008). Recent consumer research suggests that Malaysian's food consumption is becoming increasingly diverse, and consumers are growing more concerned about the quality, safety, and nutritional content of their food (Ishida et al., 2003; Liana et al., 2010; Prescott et al., 2002; Rezai, Mohamed, & Shamsudin, 2011). A number of consumer characteristics such as socio-demographics (e.g., gender, age, income, education, the presence of young children in the household, ethnicity), knowledge, attitudes, and perceptions have been shown to influence Malaysian consumers' demand for quality differentiated food products (Rezai et al., 2011).

Additionally, extrinsic product cues such as packaging, food labels, quality certifications, brands, and promotional /marketing material can influence both consumers' perceptions and choices of food products (Liana et al., 2010; Ong et al., 2008; Prescott et al., 2002). Several studies have found that gender and the presence of children in the household significantly influence food purchasing decisions. Malaysian men were found to spend significantly more than women on food and beverages away from home (Ong et al., 2008). Radam et al. (2010) found that females were generally more health conscious than

Figure 4. Sample of vinegar made from Dukung (Lansium Domesticum Var. Duku) and Rambutans (Nephelium Lappaceum).

men, and consumers in households with children less than 12 years of age were generally less concerned about price and more interested in purchasing safe and wholesome food.

In addition to ethnicity, gender, and household composition, other demographic variables such as income, education, and age have been found to significantly influence Malaysian's food consumption. Higher income consumers were more likely to purchase organic food products (Quah & Tan, 2010; Rezai et al., 2011). Rezai et al. (2011) found that respondents who had completed some level of tertiary education were more likely to buy organic vegetables, which were perceived by respondents to be "healthier." Malaysian consumers between the age of 20 and 40 years old were found to purchase more organic and healthy food, while consumers aged 65 and over were found to spend relatively more on beverages and tobacco products (Ong et al., 2008; Rezai et al., 2011). When examining the relationship between age and organic food consumption, Quah and Tan (2010) found that for each 10-year increase in age, Chinese–Malaysian consumers are about 11% more likely to purchase organic food products.

Interestingly, age was not a significant variable in the Malaysian consumer models examining Malay and Indian consumers' organic food purchases. As well as the socio-demographic factors discussed above, extrinsic cues, particularly quality or production certifications authorized by government agencies or religious organizations (e.g., Halal), have been found to significantly influence Malaysians' food purchase decisions. For example, Rezai et al. (2011) and Liana et al. (2010) found that Malaysian consumers were more likely to purchase organically grown vegetables and meat products, respectively, certified by a government agency versus products not carrying the government certification. These studies shed light on the various factors which influence Malaysian consumers' preferences and purchases for food products.

Customer's preferences toward natural fruit vinegar product

A close related previous study is carried out by Jau-Jay Wang in Taiwan. Purpose of his study is to investigate the consumers' respects on the important attributes of the fruit vinegar, then find out its optimal combinations of consumers' preferences based in Taiwan by the year of 2001. His research is published as thesis named "A Conjoint Analysis on Consumers' Preference of Fruit Vinegar Attributes" by National Pingtung University of Science and Technology.

Major finding of his study found out:

- Segment 1: the optimal product mix of fruit vinegar is the plum flavor, NT$150, glass packaging material, and sold at the supermarket. It is named as supermarket cluster.

- Segment 2: the optimal product mix of fruit vinegar is the grape flavor, NT$150, plastics packaging material, and sold at the superstore.

The relation on knowledge of natural fruit vinegar product

Results from research of Jau-Jay Wang show that the purchasing motivation is influenced by the products' benefits (for beauty, helping digest, as supplement, etc.) and living habit (wants to try, a usual consumer of vinegar, like the flavor, etc.). Besides, he also found most of the customers in Taiwan consider about product price, ease to buy, and appearance or material of packaging before purchasing a vinegar product. (Wang, 2001). Through information gain actually influences the consumer purchasing behavior (Zulariff et al., 2016).

Perception of natural fruit vinegar product

In the analysis of awareness and perception of customers, results show that flavors and branding do not give impacts to selection of customers. In addition, result also interprets that consumers believe that consumption of fruits vinegar is a trend for health protection and prefer fruits vinegar than artificial vinegar. Besides, they also concerns about the benefits and price of fruit vinegar products.

In the same research, result shows that respondents prefer glass material for packaging and less prefer plastic material for packaging in different districts of Taiwan. (Wang, 2001)

Research methodology

A survey was conducted to obtain data and information by distributed questionnaires to a sample size of 100 respondents in each area (Kuala Lumpur and Kelantan). The type of questionnaires is consisted of close and open-ended questions and divided into three sections including demographic data, knowledge about vinegar, and packaging preferences. Questionnaires are designed follow theoretical framework of KAP.

The reason for choosing Kuala Lumpur and Kelantan as sample group is to compare the preferences of people who are different at income level. W.P. Putrajaya recorded the highest average household income amounting to RM6,747 per month followed by Selangor (RM5,962) and W.P. Kuala Lumpur (RM5,488). Three states recorded the average monthly household income of above RM4,000 per month that is Melaka (RM4,184), Pulau Pinang (RM4,407), and W.P. Labuan (RM4,407). The states which recorded the lowest average monthly household income

Table 3. Population in Kuala Lumpur and Kelantan.

State	Amount of Population	Amount of Household	Average Monthly Household Income (RM)
W.P. Kuala Lumpur	1,627,172	436,856	5,488
Kelantan	1,459,994	300,178	2,536

Source: Population and Housing Census of Malaysia,2010 & Household Income and Basic Amenities Survey Report 2009.

were Kelantan (RM2,536), Perlis (RM2,617), and Kedah (RM2,667). Table 3 stated the amount of population, amount of household, and average monthly income for a household in Kuala Lumpur and Kelantan.

In this research, minimum of 50 respondents from each state is set to prevent problems happen when too little sample size is chosen. According to Griffen and Hauser (1991), 20–30 in-depth interviews are necessary to uncover 90–95% of all customer needs for the product categories studied. Thus, the authors determined that a sample size of 30 respondents would provide a reasonable starting point. This number is corroborated by Dr. Saiful (2011), a clinical researcher, who states that a "sample size larger than 30 and less than 500 are appropriate for most research," adding that sub-samples also require at least 30 observations when applicable.

There are also other researchers who have tried to suggest some kind of guidelines for qualitative sample sizes. Charmaz (2006), for example, suggests that "25 (participants are) adequate for smaller projects"; according to Ritchie et al. (2003), qualitative samples often "lie under 50," while Green and Thorogood (2009) state that "the experience of *most qualitative researchers* (emphasis added) is that in interview studies little that is 'new' comes out of transcripts after you have interviewed 20 or so people."

Statistical analysis

The collected data were coded and analyzed by using the Statistical Package for Social Sciences (SPSS). Frequency distribution analysis was used to determine a demographic profile of the survey. It was also used to determine the preferred types and brands of vinegar, place to purchase vinegar, purpose of using vinegar, frequency of usage, frequency to check product label, and sources to get information of all respondents.

The cross-tab and chi-square test were also used to examine the statistical independence. In order to determine the statistical different of respondents' perception and awareness and some demographic profile, a few hypotheses have been set and tested in this study.

Results

This survey depends on a random sampling method. The respondents are people who live in Kuala Lumpur (KL) and Kelantan. Total of 200 questionnaires are distributed from July of 2015 to end of October 2015 at different events held in Kuala Lumpur and Kelantan. With deduction of uncompleted answered respond, there are left of 177 copies of valid respond which are 88.5% from the total number of distributed questionnaires.

Descriptive data

In overall results, there are 108 respondents from Kelantan and 69 respondents from Kuala Lumpur (KL). Most of the respondents age group are people within the age group of 25–34 years (41.2%) following by the age group of 18–24 years (35.0%), 35–44 years (11.9%), 45–54 years (7.9%), and 55 years and above (4.0%), while for gender, there are 52.5% and 47.5% of female and male respondents, respectively. Furthermore, 52.5% of respondent are single, 46.9% of respondents are married, and 0.6% from respondents are windowed. In the education level, most of the respondents are university level (58.8%) and secondary school level (19.8%) following by Certificate (12.4%) and others (9%). For the race group, there are 83.1% Malay, 14.1% Chinese, 1.1% of Indian, and 1.7% people from other races. Muslim respondents consist of 83.6%, and non-Muslim consists of 16.4%. On the other hand, people who are working in public sector are 41.8%, unemployed 23.2%, private sector 14.1%, other options 11.3%, and self-employed 6.2%; housewife and retired people from the total respondents are both 1.7%, respectively. Furthermore, the income of respondents is mostly at the level of less than RM2000 (55.4%), follow by category of RM2001-RM4000 (31.6%), RM4001-RM6000 (11.3%), and RM6001 and above (1.7%) (Table 4).

Table 5 described the respond of customers' preferences toward vinegar products in general; questions pertaining to the like of vinegar 68.9% of respondents stated like, while 31.1% of respondents were dislike. The question of the type of vinegar use is as follows: 49.2% of users prefer natural vinegar, 16.9% of users tend to consume artificial vinegar, and 2.8% respondents consume both artificial and natural vinegar. While among those people who like to consume natural vinegar, 46.3% of them likes to consume fruit vinegar, 18.86% usually takes vinegar made of nipa palm, 4.0% of respondents claimed that they accept both fruit and nipa vinegar. Moreover, results of vinegar brands choices in this survey show that respondents were not "big fans" of popular brands in Malaysia such as Heinz, Bragg, and Olive house products. Most of them (24.3%) used to take brands other than the three brands stated above. Result shows that supporters of Heinz among respondents were 19.8%, Olive house 18.1%, and Bragg 6.8%.

Table 4. Sample Characteristics (n = 177).

Variable		Frequency	Percent
Region			
	Kelantan	108	61.00
	Kuala Lumpur	69	39.00
Age			
	18–24 years	62	35.0
	25–34 years	73	41.2
	35–44 years	21	11.9
	45–54 years	14	7.9
	55 and above	7	4.0
Gender			
	Male	84	47.5
	Female	93	52.5
Marital Status			
	Married	83	46.9
	Single	93	52.5
	Window	1	0.6
Education Level	No Formal Schooling	1	0.6
	Primary School	2	1.1
	Secondary	35	19.8
	Certificate	22	12.4
	University	104	58.8
	Others	13	7.3
Race			
	Malay	147	83.1
	Chinese	25	14.1
	Indian	2	1.1
	Others	3	1.7
Religion			
	Muslims	148	83.6
	Christians	8	4.5
	Hindu	2	1.1
	Buddhist	17	9.6
	Others	2	1.1
Occupation			
	Private Sector	25	14.1
	Public Sector	74	41.8
	Self-employed	11	6.2
	Housewife	3	1.7
	Unemployed	41	23.2
	Retired	3	1.7
	Others	20	11.3
Current Income			
	Less than RM2000	98	55.4
	RM2001-RM4000	56	31.6
	RM4001-RM6000	20	11.3
	RM6001 and above	3	1.7

Source: Survey (2015).

Table 6 shows the results of customers' attitude toward vinegar products. Most of the respondents like to purchase vinegar products at hypermarket (46.9%) followed by grocery (19.8%), clinic and direct selling both 5.1%, herb store (4.5%), and others (0.6%). While the purposes of consuming vinegar ware dressing (58.2%), health beverage (20.3%), cleaning agent (5.1%), and Beauty (2.3%). In addition, the result also shows most of the respondents

Table 5. The Respond of Customers' Preferences toward Vinegar Products.

Variable		Frequency	Percent
Do you like vinegar			
	YES	122	68.9
	NO	55	31.1
If "YES" what kind of vinegar is you use	Artificial Vinegar	30	16.9
	Natural Vinegar	87	49.2
	Both Artificial and Natural	5	2.8
Types of natural vinegar			
	Fruit	82	46.3
	Nipa Palm	33	18.6
	Both fruit and nipa	7	4.0
Brands of vinegar	Heinz	35	19.8
	Bragg	12	6.8
	Olive house	32	18.1
	Others	43	24.3

Source: Survey (2015).

Table 6. The Customers' Attitude toward Vinegar Products.

Variable		Frequency	Percent
Place to purchase			
	Hypermarket	83	46.9
	Grocery	35	19.8
	Clinic	9	5.1
	Direct selling	9	5.1
	Herb store	8	4.5
	Others	1	0.6
Purpose of using vinegar products	Dressing	103	58.2
	Health beverages	36	20.3
	Beauty	4	2.3
	Cleaning agent	9	5.1
Frequencies of usage			
	Everyday	14	7.9
	Once a week	23	13.0
	Several times a week	66	37.3
	Others	19	10.7
Knowledge towards products	Yes	72	40.7
	No	50	28.2
Sources of knowledge			
	Package label of product	26	14.7
	Friends	22	12.4
	Internet	40	22.6
	Advertisement	12	6.8
	Others	3	1.7

Source: Survey (2015).

consumed vinegar several times a week (37.3%), follow by once a week (13.0%), other options (10.7%), and every day (7.9%). Besides, there are 40.7% of respondents consumed vinegar products with knowledge of the benefits taking vinegar, while 28.2% respondents do not. Furthermore, results also show that respondents get to know information about benefits of vinegar

Table 7. Awareness of Customers towards Information.

Variable		Frequency	Percent
Frequencies to check a label on product			
	Rarely	37	20.9
	Never	3	1.7
	Sometimes	36	20.3
	Often	41	23.2
	Always	60	33.9
Sources to get information about a product			
	Newspaper/Magazines	114	64.4
	Television	107	60.5
	Friends	94	53.1
	Family members	69	39.0
	Internet	114	64.4
	Product Label	82	46.3
	Bill board	26	14.7

Source: Survey (2015).

products via Internet the most (22.6%), follow by package of product (14.7%), friends (12.4%), advertisement (6.8%), and others (1.7%).

Table 7 dedicates the awareness of customers toward information. The result shows that there are 33.9% of respondents who always check label of a product, followed by 23.2% respondents who often check a label, 20.9% of them who rarely check, 20.3% who will check a label only for sometimes, and 1.7% of them never check label of a product. In order to understand the best way for promoting a product, respondents had been asked about which sources they usually get to know information of a product. Result in Table 7. shows that there were 64.4% of them get information from both Internet and newspaper or magazines, followed by television (60.5%), friends (53.1%), product label (46.3%), family members (39.0%), and bill board (14.7%).

Customers' preferences toward function of packaging and label

There are three questions which required respondents to rank. Respondents were asked to rank about the purpose of packaging, what they looked for at product when they are going to purchase a product and what kind of information they would like to have further description. From the result shows in Table 8, 60.5% of respondents had chosen to protect a product as the main purpose of packaging, and 55.5% think that it is to inform consumers about the products as a second function followed by 67.2% of respondents had chosen to market a product as third function of packaging. Next, result in Table 9 shows that there are 51.4% respondents who would look for a Halal label first when they are going to purchase a product, followed by expiry date (18.1% respondents ranked this option as second), brand (14.7%), nutritional facts (20.9%), ingredient (18.6%), price (13.0%), health benefits (21.5%), acetic acid content (22.6%), and country of origin

Table 8. The Ranking of the Most Important Purpose of Packaging in Respondents Understanding.

	Frequency, *n*	Percentage (%)
To protect product	107	60.5
To inform	100	55.5
To market	119	67.2

Source: Survey (2015).

Table 9. Labels Would be Look First when Respondents are Going to Purchase a Product.

Ranking	Frequency, *n*	Percentage (%)
Halal	91	51.4
Expiry date	32	18.1
Brand	26	14.7
Nutritional facts	37	20.9
Ingredient	33	18.6
Price	23	13.0
Health benefit	38	21.5
Acetic acid content	40	22.6
Country of Origin	79	44.6

Source: Survey (2015).

(44.6%). Furthermore, respondents are most interested to know more information about Halal (41.8% chosen this option as the first) followed by nutritional facts (19.2%), ingredient (14.7%), health benefits (16.9%), price (13.0%), acetic acid content (16.4%), brand (14.1%), expiry date (15.8%), country of origin (45.8%), and lastly barcode (57.1%) as shown in Table 10. All Ranking results show that the consumers are concern about the quality, safety, and nutritional content of products.

Comparison of perceptions and attitude of customers toward vinegar product in Kuala Lumpur and Kelantan

To determine the consumers' perception, general information and knowledge about the vinegar have been collected in this study. Table 11 presents the respondents' awareness toward vinegar product. There are 39.55% of Kelantanese, and 29.38% of KL people responds that they like vinegar in general, while 21.47% of Kelantanese and 9.60% of KL people dislike vinegar product in general. This result shows that people from the two regions are basically consumer for vinegar, especially people in Kelantan. Among people who responded that they like vinegar product, 16.36% of Kelantanese and 8.20% of KL people preferred artificial vinegar, while 37.70% of Kelantanese and 33.61% of KL people preferred natural vinegar. This result shows that natural vinegar is more preferred by the consumers in both regions compared to artificial vinegar. Furthermore, for people who preferred natural

Table 10. Information Stated on Label which Respondent Interest to Know More Details.

Ranking	Frequency, *n*	Percentage (%)
Halal	91	51.4
Expiry date	32	18.1
Brand	26	14.7
Nutritional facts	37	20.9
Ingredient	33	18.6
Price	23	13.0
Health benefit	38	21.5
Acetic acid content	40	22.6
Country of Origin	79	44.6

Source: Survey (2015).

Table 11. Respondents' Awareness toward Vinegar Product (n = 177).

Statement	Kelantan *n* (%)	Kuala Lumpur *n* (%)
Like or Dislike Vinegar		
Like	70 (39.55)	52 (29.38)
Dislike	38 (21.47)	17 (9.60)
If 'Like', what kind of vinegar is used		
Artificial Vinegar	20 (16.39)	10 (8.20)
Natural Vinegar	46 (37.70)	41 (33.61)
Both Artificial and Natural	4 (3.28)	1 (0.82)
If natural vinegar, what type of natural vinegar		
Fruits	41 (33.61)	41 (33.61)
Nipa	25 (20.49)	8 (6.56)
Both fruits and nipa	4 (3.28)	3 (2.46)
Brand of Natural Vinegar		
Heinz	18 (14.75)	17 (13.93)
Bragg	6 (4.92)	6 (4.92)
Olive house	19 (15.57)	13 (10.66)
Others	27 (22.13)	16 (13.11)
How often respondents consume Vinegar products		
Everyday	8 (6.56)	6 (4.92)
Once a week	14 (11.48)	9 (7.38)
Several times a week	38 (31.15)	28 (22.95)
Others	10 (8.20)	9 (7.38)
Do you know the benefits of Vinegar product?		
Yes	37 (30.33)	35 (28.69)
No	33 (27.05)	17 (13.93)

Source: Survey (2015).

vinegar, 33.61% of respondents from both regions are tended to take natural fruits vinegar compared to nipa vinegar (20.49% Kelantanese; 6.56% KL people). Next, the result also shows that respondents in Kelantan (22.13%) do not specific on any popular brand of natural vinegar, while 13.93% of KL people preferred product of Heinz. Besides, the second popular brand in KL after Heinz is Olive house (10.66%) followed by Bragg (4.92%). Most of the respondents from both region (33.15% Kelantan people and 22.95% KL people) consume vinegar several times a week, which achieve the highest record among others options.

Table 12. Respondents' Perception toward Packaging of Vinegar Products. (n = 177).

Factors	Kelantan n (%)	Kuala Lumpur n (%)
Choice of Packing Materials		
Glass	80 (45.20)	48 (27.12)
Plastic	27 (15.25)	19 (10.73)
Both Glass and Plastic	1 (0.56)	2 (1.13)
Choice of Container's Volume		
Less than 200 ml	30 (16.95)	14 (7.91)
200–400 ml	55 (31.07)	37 (20.90)
401–600 ml	16 (9.03)	14 (7.91)
601–800 ml	5 (2.82)	2 (1.13)
801–1000 ml	2 (1.13)	2 (1.13)
Choice of Bottle Shape		
Square	36 (20.34)	30 (16.95)
Cylinder	70 (39.55)	39 (22.03)
Both shapes	2 (1.13)	0
Choice of Material Quality of Bottle		
Transparent	91 (51.41)	61 (34.46)
Translucent	15 (8.47)	8 (4.52)
Opaque	2 (1.13)	0
Choice of Material Quality of Lid		
Plastic	65 (36.72)	34 (19.21)
Metal	41 (23.16)	33 (18.64)
Others	2 (1.13)	2 (1.13)
Choice of Lid Type		
Crown cap	10 (5.65)	3 (1.69)
Round dispensing cap	50 (28.25)	28 (15.82)
Sharp dispensing cap	7 (3.95)	10 (5.65)
Screw cap	41 (23.16)	28 (15.82)
Would be more interesting if the packaging vinegar added with images of fruit or graphic that is appropriate to the type of fruit vinegar?		
Yes	105 (59.32)	68 (38.42)
No	3 (1.69)	1 (0.56)
How frequently do respondents examine food labels		
Rarely	24 (13.56)	13 (7.34)
Never	3 (1.69)	0
Sometimes	30 (16.95)	6 (3.39)
Often	23 (12.99)	18 (10.17)
Always	28 (15.82)	32 (18.08)

Source: Survey (2015).

Respondents' perception toward packaging of vinegar products is show in Table 12. Results show that both Kelantan and Kuala Lumpur people prefer glass material for bottle, 200–400 ml sized bottle, cylinder-shaped bottle, and transparent bottle material for vinegar packaging, while for choice of lid, respondents from Kelantan and Kuala Lumpur have different preferences. There is a significant difference at the choice of lid material and type for respondent in Kelantan, while result shows that respondents in Kuala Lumpur have wider acceptance toward the lid material and types of bottle's lid. Findings of this research show that almost all respondents think packaging of vinegar will be more attractive

Table 13. Pearson Chi-Square Coefficient (n = 177) (Knowledge About Vinegar).

Factors	Like vinegar	Type of Vinegar	Type of Natural Vinegar	Brand of Vinegar	Frequency for usage of Vinegar	Knowledge of Vinegars benefits
Gender	**0.007**	In Significant	In Significant	In Significant	In Significant	In Significant
Marital status	**0.008**	**0.007**	In Significant	In Significant	In Significant	In Significant
Race	In Significant	In Significant	In Significant	In Significant	In Significant	In Significant
Religion	In Significant	In Significant	In Significant	In Significant	In Significant	In Significant
Occupation	In Significant	In Significant	In Significant	In Significant	**0.006**	In Significant

Source: Survey (2015).

if added with images of fruit or graphic that is appropriate to the type of fruit vinegar. Comparing the frequency to check on a label for two sample region in this study, respondents in Kuala Lumpur shows more concern toward labeling on packaging. There are 18.08% of respondents from Kuala Lumpur always check food label, while 16.95% (the highest record) of respondents in Kelantan sometimes examine a food label follow by 15.82% of Kelantan respondents who always examine a food label.

Analysis of relationship between demographic profile and awareness towards vinegar product

Finding show in Table 13 that only gender and marital status have significant relationship with the statement "like vinegar" with 0.007 and 0.008, respectively. Only marital status has significant relationship with the statement "type of vinegar" with 0.007. Only occupation has the relationship with the statement "frequency for usage of vinegar" with 0.006.

*Chi-square coefficient is significant at 0.05 level (2-tailed)

Conclusion

An overall result presents respondents from Kelantan and Kuala Lumpur both have high percentage on acceptance for Natural Fruit Vinegar products. This finding is answering the hypothesis 1 (H1) in this study, and the hypothesis is accepted. The result show no different among respondents from Kelantan and Kuala Lumpur in term of knowledge about natural fruit vinegar. The relation on knowledge about vinegar with the relationship of demographic factors shows only gender, marital status, and occupation as relationship. There are also a few findings, showing that the previous research results of other researchers are still valid results. The hypotheses show that customers in Kuala Lumpur and Kelantan both accept Natural Fruits Vinegar products.

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