A MEDIATING EFFECT OF FOOD NEOPHOBIA TOWARD PURCHASING INTENTION OF GOAT MILKS AMONG MALAYSIAN CONSUMERS

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Abstract: Food neophobia is an on-going issue that hits consumers of all stages of life. It is commonly associated with the reluctance to try new food unfamiliar to their food habits. The major objective of this research was to identify the customer's favorable or unfavorable factors correlated to goat milk purchasing intention among the Malaysian consumers by adapting the theory of planned behaviour (TPB). The components of this theory were fit into as attitude, social influence and self-efficacy with the mediation effect of neophobia character of the consumers. The results were analyze using PLS SEM and clearly indicate that there is a direct and positive correlation exists between attitude, social influence and self-efficacy on goat milk purchasing intention among Malaysian consumers. The mediation result of the neophobia traits of the consumer further showed partial mediation between the TPB variables and goat milk purchasing intention. The outcome of the study has practical and managerial implications directing the government and companies to disseminate the importance of goat milk consumption, especially in relation to nutritional and medicinal values. The paper extends better insight into the importance of goat milk consumption for better health among customers.

Keywords: Consumer behavior, Consumer attitude, Social Influence, Self-Efficacy, Neophobia.

INTRODUCTION

Goat milk has the highest mineral composition of calcium (CA), phosphorus (P) and potassium (K) compared to cow and human milk (Bihaqi & Jalal 2010). Moreover, goat milk also contains higher levels of Vitamin A than cow milk (Yangilar, 2013). India, Bangladesh and Sudan are the top 3 major goat milk production countries with total 15,510,411 tonnes per year(Charts Bin, 2011). Compare with the World Total Milk Production (Cow milk, Buffalo milk, Goat milk, Sheep milk and Camel milk) is 703,996,079 tonnes per year, only 2.1% of the goat milk contributed to the global milk production in 2010 (Gerosa and Skoet, 2012). It showed that there is room for promoting goat milk production and usage in the global market.

In Malaysia, the Islamic values directly and indirectly influence the Malay lifestyles and food choices. Goat milk is a Sunnah food highly valued for its nutritional benefits. Sunnah food products has been seen as universally accepted products for both Muslim and non-Muslim communities. However, one of the main reasons for low consumption of goat milk is considered a low demand from consumers. The low consumption scenario leads us to look into the role played by market and the consumer, especially the purchasing intention.

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PROBLEM STATEMENT

In Malaysia scientifically based information on dairy goat farming is very limited (Jamaluddin, Idris & Roslaini, 2012). Though several advantages were mentioned by several research scholars there is low level consumption of goat milk across the countries. Demand for dairy products in general in Malaysia is growing steadily, but demand for goat milk products is very small. Therefore, it is important to study factors stimulating and influencing consumers when purchasing milk and milk products in order to support their consumption as well as to study factors that prevent consumers in their purchasing and consumption in order to deal with them and transform such barriers into enablers. The controversies raised by fundamental questions on peoples' attitudes towards acceptance of goat's milk, and its implications for consumer consumption on goat milk call for additional studies. Lack of information about the specific factors that drive attitude towards goat's milk in Malaysia and its implications for dairy milk products, ventures and market. The current study aimed to fill this void by undertaking a study to assess peoples' attitudes towards purchasing intention of goat's milk in Malaysia where exotic dairy goats have been introduced, factors associated with these attitudes, and its implication for marketing program.

Research Questions

- 1. Do attitude, social influence and self-efficacy have any influence on goat milk purchasing intention among Malaysian consumers?
- 2. Does food neophobia mediate the relationship between attitude, social influence and self-efficacy on goat milk purchasing intention among Malaysian consumers?

LITERATURE REVIEW

Consumer Attitude and Goat Milk Purchasing Intention

A longitudinal four year surveys by Harden & Hepburn (2011) of milk drinkers revealed that about 66.8% of those consuming goat's milk did so for medical reasons. Santoso et al. (2012) made similar conclusions on a survey among consumers of goat's milk. According to Jerop et al. (2013), consumers were willing to pay higher prices for goat's milk. This implies that many consumers of goat's milk did not mind the price of the milk, possibly because of the additional health benefits of goat's milk. Several researchers have concluded that the consumer's product knowledge has a significant positive impact on the buying decision (Shirin & Kambiz, 2011; Lin & Chen, 2006), including consumers' purchasing intention. Moreover, there is a high awareness among consumers that dairy milk has a high calcium content (Bus & Worsley, 2002, p. 201); thus there is a chance that consumers have also good knowledge of goat milk, that could lead to a strong purchasing intention.

Subjective Norm and Goat Milk Purchasing Intention

Subjective norms are influenced by an individual's desire to act in accordance with the expectations of friends, family or social groups (McKnight, 2007). Studies found that dairy product consumption is significantly influenced by family buying habits and choices (Xu et al., 2010,Nolan-Clark et al., 2011 and ESADA, 2002). According to Vermeir and Verbeke (2004), social pressure from peers, can influence purchasing intentions to purchase, regardless of relatively negative attitudes.

Perceived Behavioral Control and Goat Milk Purchasing Intention

Ajzen, (1991) extended TPB using the decomposition PBC component into two dimensions: self-efficacy and facilitating conditions. In the context of purchase intention, the first dimension, self-efficacy refers to consumer self-assessments of his/her capabilities to purchase goat milks, Meanwhile, the second dimension facilitating conditions reflects the availability of resources needed to perform particular behaviors. Accordingly, this study focused on assessing the how many of these consumers having the efficacy to stand on their decision to purchase the goat milk in comparison with the alternative products available in the market.

Neophobia and Goat Milk Purchasing Intention

Consumers are truly conscious about the safety and security of the consumption of the product. In the food choice context, neophobia is a concept specifically related to food-related personality traits (Eertmans et al., 2005). Food neophobia serves as a mechanism protecting humans from potential physical harm, but also restricts the development of new food products and flavors (Altisent, Jaeger, Johnston, & Harker, 2013).

Research Framework

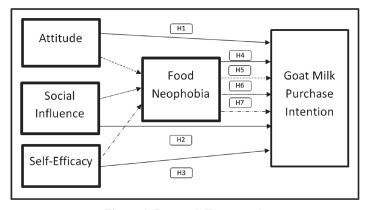


Figure 1: Research Framework

Research Hypothesis

- 1. There is direct and positive relationship between attitude and goat milk purchasing intention among Malaysian consumers
- 2. There is direct and positive relationship between social influence and goat milk purchasing intention among Malaysian consumers
- 3. There is direct and positive relationship between self-efficacy and goat milk purchasing intention among Malaysian consumers
- 4. There is direct and positive relationship between food neophobia and goat milk purchasing intention among Malaysian consumers
- 5. Food neophobia mediates the relationship between attitude and goat milk purchasing intention among Malaysian consumers.
- 6. Food neophobia mediates the relationship between social influence and goat milk purchasing intention among Malaysian consumers
- 7. Food neophobia mediates the relationship between self-efficacy and goat milk purchasing intention among Malaysian consumers

Research Design

The population selected for the study includes the adult consumers in the central part of Malaysia which includes the Selangor, Wilayah Persekutuan Kuala Lumpur, Wilayah Persekutuan Putrajaya region. Since the population, groups are separated and access to all is difficult, e.g. in various distant regions, the sampling technique considered in this research is probabilistic cluster sampling. A total population of 6.15 million available in the Selangor region of Malaysia. Based on Raosoft Sample Size Calculator, a minimum of 384 sample in order to ensure statistical validity of the analysis. A total of 384 samples were considered for the current study of these three regions. As guided by cited authorities, the study data met all of the underlying assumptions of multivariate analysis, through SPSS such as, data normality, homoscedasticity, uni-dimensionality and multicollinearity. In addition, values of means, minimum, maximum and standard deviations were computed under descriptive statistical techniques. Furthermore, sample description was narrated through cross tabulation. To draw inferences about study hypotheses. PLS-SEM technique was mainly employed for the data analysis. Moreover, the requirements of structural and measurement models were met through PLS-SEM by using SmartPLS 3.0.

MEASUREMENTS

Measurement 1: Consumer Attitude

Customer attitude was measured by using 3 items developed by Shih and Fang (2004). The participants were asked to indicate their perception on a Likert scale

(1-5) with response ranging from "strongly disagree" to "strongly agree". This scale was used by Pikkarainen et al. (2004) and had reported reliabilities of the items to be above 0.89.

Measurement 2: Social Influence

Social influence employs the CSII scale proposed by Bearden et al. (1989, 1990). The SII measure includes all four items of the original scale. Whereas the SNI measure for our study drops one of the original eight items because it explicitly refers to purchasing the latest 'fashion'. This item was potentially distracting for our respondents and irrelevant to the study. Respondents were asked to rate the 13 items based on a seven-point Likert-type scale ranging from 1 ('strongly disagree') to 7 ('strongly agree'). Slight modifications to the original scale were made in order to make it applicable to the current environment in Malaysia. The Cronbach alpha of items loaded is research was 0.79

Measurement 3: Self-Efficacy

Self-efficacy (4 items) was all based on an instrument developed by Taylor and Todd (1995). Respondents were asked to rate the statements based on a seven-point Likert-type scale ranging from 1 ('strongly disagree') to 7 ('strongly agree'). Slight modifications to the original scale were made in order to make it applicable to the current environment in Malaysia. The major part of this questionnaire is derived from Bandura (1982) and is later modified. The Cronbach alpha of items loaded is research was 0.94.

Measurement 4: Purchasing Intention

Questions regarding consumers" purchasing intentions for goat milks were modified from the three scale (Heijden & Verhagen 2004). Some minor modifications were done, including the wording of the items to make them applicable for a goat milks marketplace context. These three items were measured along a five-point Likert scale, ranging from "Strongly disagree" (1) to "Strongly agree" (5). Thus the three items were averaged to form a "purchasing intention" scale with a reliability coefficient of 0.72

Measurement 5: Food Neophobia

In 1992, Pliner and Bobden conducted a study with the aim to develop a paper and pencil based scale to measure food neophobia. As a result, a scale was designed to specifically measure the trait. The scale contains ten items, with five positive and five negatively worded items. This scale was also used to examine the relationship between food neophobia and the purchasing of ethnic food (Verbeke & Lopez,

2005). In this study, this scale contains 10 items measured by a 7-point Likert Scale from 1 ('very strongly disagree') to 7 ('very strongly agree'). The higher the score, the higher the level of food neophobia they possess, and vice versa. The Cronbach alpha of items loaded is research was 0.75

RESULT

Descriptive Analysis of the Constructs

A descriptive analysis was conducted to describe the general situation of attitude, social influence, and self-efficacy among the Malaysian consumer. The summary date of the mean, standard deviation, maximum and minimum of the constructs were reported in Table 1. These results showed the perceived level of attitude of Malaysian consumers on goat milk purchasing intention. As tabulated in Table 1 the minimum value of most of the constructs was 1.00 and the maximum value of most of the constructs was 7.00 which are the minimum and maximum levels in the Likert scale used in this study. In other words, this result indicated the trend of goat milk purchasing intention antecedents like the attitude, social influence, and self-efficacy and the neophobic behavior among the Malaysian consumer.

TABLE 1: DESCRIPTIVE STATISTIC OF THE CONSTRUCTS (N = 384)

Construct	Mean	Standard Deviation	Min	Max
Attitude	5.99	0.63	1.00	5.00
Social influence	6.01	0.71	1.00	7.00
Self-efficacy	5.92	0.76	1.00	7.00
Neo Phobia	5.67	0.80	1.50	7.00
Purchasing Intention	5.91	0.75	1.00	5.00

Correlation Analysis Result

This analysis was performed after the ensuring that all the basic assumptions such as the outliers, linearity, normality etc. were met. It is conducted with a view to determine the direction of the association among the variables used in this study. As it is, there are three independent variables in this study which is consumer attitude, social influence and consumer self-efficacy. Further, there is on mediation variable food neophobia and one dependent variable purchase intention. The correlation result shows that there is significant correlation among the variables even among the independent variables consumer attitude, social influence and consumer self-efficacy, with the dependent variables purchasing intention to revisit at 0.01 level.

PIATSISE NP1 PΙ .561** AΤ .404** .522** SI 1 .499** .321** .601** SE 1 .492** .559** .577** .423** NP 1

TABLE 2: CORRELATION ANALYSIS RESULT

The result in Table 2 clearly shows the significant and positive relation of consumer attitude (AT) with goat milks purchasing intention (PI)(r = 0.561, P < 0.01), social influence (SI) with PI (r = 0.522, P < 0.01) and Self efficacy (SE) and intention to purchase goat milk (SE) (r = 0.499, P < 0.01). Table further point out a similar relationship between neophobia (NP) and intention to purchase goat milk (NP) (r = 0.492, P < 0.01).

Structural Model

Following Hair et al.(2011; 2012), this section is concerned using the standard bootstrapping process with a number of 5000 bootstrap samples of 384 cases to assess the importance of the path coefficients. Using the PLS bootstrapping output, the moderation effects of organizational culture was computed. Figure 3, illustrates the estimation for the full structural model. To understand the relationship between the constructs, SEM-PLS structural model analysis was conducted. The contribution of each construct of the exogenous variable is represented by the standardized beta values within the PLS structural model (Chin, 1998).

Absolute t Value of R^2 Value of Q^2 Hypothetical Relationship Path Coefficient statistic value $AT \rightarrow IP$ 0.612*** 20.916 0.418 0.353 $SI \rightarrow IP$ 0.602*** 19.469 0.436 0.392 $SE \rightarrow IP$ 0.713*** 42.401 0.637 0.585 $NP \rightarrow IP$ 0.629*** 32.796 0.542 0.667 $AT \rightarrow NP \rightarrow IP$ 0 492*** 23.916 0.403 0.346 0.501*** $SI \rightarrow NP \rightarrow IP$ 29,469 0.398 0.331 0.499*** $SE \rightarrow NP \rightarrow IP$ 19.916 0.510 0.461

TABLE 3: OVERALL ANALYSIS

Structural Model Direct Effect

Figure 2 shows the results of the structural path of the model 1, 2 and 3 based on the hypothesis (H1, H2, and H3) of the study. The model 1, 2 and 3 of the integrated

figure considered as one of the major analysis, showing the direct effect attitude, social influence and self-efficacy of the Malaysian consumers on intention to purchase goat milk factors as a combined construct.

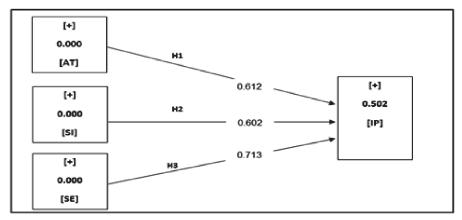


Figure 2: Theoretical Framework - Direct Effect

The direct relationship showed that the predictor has significant and positive impact on predicting variable (p < 0.01) shown in Figure 2. In addition, the overall validity of this structural model is evident as Q-Square values (0.353, 0.392 and 0.585) are well above zero, providing the support that the attitude, social influence and self-efficacy of the Malaysian consumers on intention to purchase goat milk factors. In other words, R^2 showed that attitude, social influence and self-efficacy of the Malaysian consumers as a combined construct, explains the intention to purchase goat milk 41.8%, 43.6% and 63.7% (0.418, 0.436, 0.637) having stronger statistical power in parameter estimation (Hair et al., 2013). To sum it up, the entire three hypotheses are empirically supported. Moreover, most of the path coefficients were significant (p < 0.01).

Structural Model Indirect Effect

After including the mediating construct of neophobia between the attitude, social influence and self-efficacy and intention to purchase goat milk factors (Model 5, 6, 7), it was found that neophobia factor have a positive and significant impact on Malaysian consumers' intention to purchase goat milk. At the same time, after introducing mediator, the relationship between neophobia and intention to purchase factors was vividly reduced but still remained significant path coefficient of 0.492, 0.501, and 0.499, (p < 0.01), which is significantly lower when neophobia was asserted in the relationship.

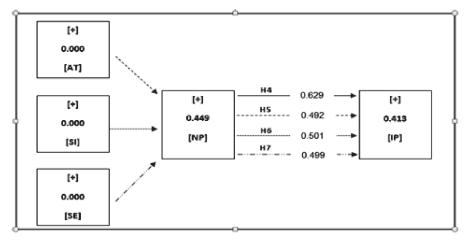


Figure 3: Theoretical Framework - Indirect Effect

DISCUSSION

Research Question 1: Do attitude, social influence and self-efficacy have any influence on goat milk purchasing intention among Malaysian consumers?

Consumer Attitude and Goat Milk Purchasing Intention

The empirical evidence from the study shows the significant positive and direct relationship between attitude goat milk purchasing intentions among Malaysian consumers. The analysis result shows that customer's factual purchasing was directly influenced by customer's purchasing attitude. According to Thøgersen (2007) it has been discovered that attitude has been regarded as a crucial predictor towards intention of eating organic food for instance like goat milk. Higher the positive attitude, consumers have about the goat milk higher their intention to consume the product. Attitude towards the products is emerged from the knowledge or awareness any consumer obtains before or after the consumption. The current findings indicate that Malaysian consumer considers using the goat milk is a good and wise idea, and they would like to use the goat milk frequently.

Social Influence on Consumer and Goat Milk Purchasing Intention

Choice of food by consumers is shaped not only by their cognitive appraisals but also by many interrelated factors (Shepherds, 2001). The experiential evidence from the research result confirms the significant positive and direct relationship between social influences on goat milk purchasing intentions among Malaysian consumers. The analysis result shows that customer's genuine purchasing was directly influenced by the group and significant others in which they belong to. It is

found that the hypothesis H2 is supported in the studies. Purchasing interest is the customer's own order to make any purchasing of a product, planning, taking relevant actions, such as suggesting (initiator), recommending (influencer), selecting, and finally taking any decision to purchase. Social effect includes group, family effects and one's role effect in his environment (Kotler & Amstrong, 2001). This revealed that customer's factual purchasing is directly influenced by cultural and social factors which act as social pressure, whether to purchase goat milk or not. Hence the cultural variation and social influence factors in Malaysia have high prominence, whether to consume the goat milk in the day to day life.

Self-efficacy on Consumer and Goat Milk Purchasing Intention

The experiential evidence from the research result confirms the significant positive and direct relationship between self-efficacy and goat milk purchasing intentions among Malaysian consumers. Perceived behavioral control has a direct effect on behavioral intention too. Perceived behavioral control is a construct unique to TPB, and it refers to an individual's perception of the presence or absence of the requisite resources or opportunities necessary for performing the behavior (Chau & Hu, 2001). The analysis result shows that customer's factual purchasing was directly influenced by self-efficacy factor of perceived behavior control variable of the theory of planned behavior. Customer's initiation, effort and persistence in relation to the sustenance of their interest and motivation to purchase the healthy product that determines their final decision to purchase the goat milk. The customer's factual purchasing is also indirectly influenced by self-efficacy. The confidence and determination that generate from varied the value proposition associated with the perceived use of goat milk in the form of medicinal values and nutritious contents which lead them to purchase the product. The current research is in congruence with the consumer theory that consumers make a purchase decision and use their products to satisfy their needs which are highly supported with their determination and efficacy. Stronger the consumers' belief or faith related to the benefits and values associated with the products higher the confidence and determination they will have towards purchasing the goat milk. The study thus proves the influence of perceived behavior control variable, self-efficacy in its influence on goat milk purchasing intention among Malaysian consumers.

Research Question 2: Does food neophobia mediate the relationship between attitude, social influence and self-efficacy on goat milk purchasing intention among Malaysian consumers?

Food Neophobia and Intention to Purchase Goat Milk

With specific reference to the mediation effects, the study has incorporated neophobia as mediator to analyze the influence of attitude, social influence and self-efficacy on consumer's intention to purchasing goat milk. The result clearly shows that neophobia is a strong mediator which directly and indirectly influences Malaysian consumers' intention to purchase goat milk. Food neophobia is known as a personal trait, which influences one's willingness to try and consume new and unusual foods and avoid any unpleasant taste that a person expects.

Whether consumers have the favorable or unfavorable attitude as discussed above determine their intention to purchase the goat milk (Birch, 1987; Galef, 1988; Rozin, 1988). Individual's food attitudes can be developed from different sources. One study identified three major determinants of food attitudes (Eertmans, Baeyens, & Van den Bergh, 2001): socio-cultural and economic, expected consequences, and sensory liking. Higher the neophobia associated with the consumer lower the intention to purchase the product. Hence it is inferred that neophobia is acting as a mediator among Malaysian consumer purchasing intention.

Certain religion and races promote goat milk consumption and the others do not. Variations in the social – cultural and religious preferences and its propagation among people, acting as a barrier or promoter in goat milk consumption. These socio - cultural and religious groups act as reference group influences purchasing intention. These reference groups exert social pressure to accept the product or reject it. However, the mediation effect of neophobia in between the social influence and purchasing intention indicates that neophobia factor also has powerful influence on the intention to purchase lowering the predictability of the social influence. Present finding indicates that neophobia is exerting partial influence on purchasing intention on goat milk. It may be inferred that expected consequences of consuming a food are related to the beneficial or harmful effects of consuming the food, beyond social influence especially into goat milk consumption among Malaysian consumers.

Studies have reported that the strong odor and taste of goat's milk prevent people from consuming the milk (Mowlem, 2005). The current result of the study indicates that there is partial mediation between self-efficacy variable and the intention to purchase the goat milk. This indicates that higher the neophobia generated by the products, higher will be their intention to purchase the goat milk

IMPLICATIONS

Based on the current empirical evidences, in relation to consumer attitude the Malaysian government should take some steps to disseminate the importance of goat milk consumption among people that would ensure better health status. Several factors develop interest among the consumers were in relation to health concerns, nutritional value, medicinal value, goat's milk being good for infants, and having a good taste.

The present study of such aspects like attitude, social influence, self-efficacy and neophobia factors thus assists to advert and signalize organizations the most

critical ones that should be incorporated into to the marketing strategy, marketing activities and tools in order to catch the attention of consumers and stimulate them towards purchase goat milk.

CONCLUSION

The major objective of this research was to identify the factors correlated to goat milk purchasing intention among the Malaysian consumers. In order to identify the antecedents of the goat milk purchasing intention this particular study was followed theory of planned behaviour. The components of this theory were fit into as attitude, social influence and self-efficacy with the mediation effect of neophobia character of the consumers. The findings of the study clearly demonstrate that there is strong correlation between attitude, social influence and self-efficacy on goat milk purchasing intention. The partial mediation effect of neophobia traits of the consumer also has obtained partial mediation effect in the relationship between attitude, social influence and self-efficacy and goat milk purchasing intention. The study thus provides better insight into the determinants of goat milk purchasing intention among Malaysian consumers. The implications of this study are at practical, policy and managerial level. Effective policy administration and marketing strategies are the ways with which goat milk can be acceptable to the consumers removing their doubts pertaining to the nutritional and health values.

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