

Sustaining traditional food: consumers' perceptions on physical characteristics of *Keropok Lekor* or fish snack

¹Omar, M., ²Mohd Adzahan, N., ³Mohd Ghazali, H., ²Karim, R.,
¹Abdul Halim, N. M. and ^{1,*}Ab Karim, S.

¹Department of Food Service and Management

²Department of Food Technology

³Department of Food Science, Faculty of Food Science and Technology, Universiti
Putra Malaysia, 43400 UPM Serdang, Selangor Darul Ehsan, Malaysia

Abstract: *Keropok Lekor* or frankfurter-like snack has long existed in Malaysia and has been sold in commercial retail shops as well as on the streets. The aims of this study were to analyze consumer's perception and attitude towards *keropok lekor* and to determine consumer's behavior on the product. Survey questionnaire was employed as a data collection tool. A total of 212 respondents from a university participated in this study. Results showed that more than 70% of the respondents chose to eat *keropok lekor* because of the taste. Half of the respondents chose black pepper as an innovative supplementary flavor of *keropok lekor*. This study also explores and analyses preliminary consumer behavior about *keropok lekor* such as satisfaction level, factors that drive consumption, product's image from consumer perspectives and etc.

Keywords: *keropok lekor*, traditional foods, culinary tourism, perception, innovation

Introduction

Local gastronomy which is part of cultural heritage becoming one of the most popular forms of tourism and is highly demanded (Lopez and Martin, 2006). Trichopoulou et al. (2007) argued that traditional foods are an expression of culture, history and lifestyle of local people. Traditional foods are also often related to local foods referring to the used of specific local ingredients in local production which highly involve the knowledge and expertise of local people.

In the context of Malaysia, every region has its own unique traditional food. For example, one of the popular traditional snacks in the East Coast of Peninsular Malaysia is known as *keropok lekor* or protein-high fish sausage. The product is prepared from simple local ingredients, such as fish, sago flour, and salt. *Keropok lekor* is found everywhere in Malaysia primarily in Terengganu and also other states in the East Coast. Consumers usually purchase *keropok lekor* from local hawker stalls and night markets also known as pasar malam among the local within their locality. In present-day *keropok lekor* is only known among the Malaysians and has not been largely exposed to the tourists who visited Malaysia

unless the tourists are being introduced during their trip in Terengganu.

Despite the popularity of *keropok lekor* in the country, this product is currently lacking in commercial value. Therefore this product may need some form of innovation in order to attract foreign tourists as well as to increase and sustain its market in the future. Thus, this study is designed to explore consumer's perceptions and attitude towards the new innovation of *keropok lekor*.

Literature review

For centuries, Malaysia has been a melting pot of different cultures that has resulted in varieties of foods. Therefore there are many varieties of traditional foods can be found throughout Malaysia. It is crucial that these traditional/local foods are preserved for future generations. By using modern technologies and traditional techniques, manufacturers could produce more hygienic way of processing and preserving food (de Roest and Menghi, 2000). Thus, there is an urgent need to refine the processing of traditional foods in response to new societal needs. Therefore, manufacturers who are involved in the processing traditional foods must ensure the originality of the foods and not to ruin the traditional foods. Refining

*Corresponding author.

Email: shahrimkarim2@gmail.com

Tel: +60389468409, Fax: +60389423552

and sustaining traditional foods are essential in facing the forces of globalization (Trichopoulou et al., 2007)

Additionally, there is also need to study traditional foods to enhance and improve our diet and at the same time bring the important elements of our cultural inheritance (Trichopoulou et al., 2006). Moreover, the preservation of culinary traditions is important for future generations to experience and savor the local food. Trichopolou et al. (2007) commented that the research of traditional foods can contribute to the continuation of nation's culinary heritage and culture which will allow not only future generations of particular country as well as but also international foreign tourist to enjoy and savor the local food.

Kostlin (1973) and Salomonsson (1984) claimed that the development of local and regional food heritage are crucial for the tourism industry. This demonstrates that "tourism plays role to reinforce local food identity and production" (Hall and Mitchell, 2002: 72). Since culinary tourism recognized local culinary is a core product in tourist experience, Malaysia has aggressively market its cuisine as another tourism products. The government also has engaged in promotion of the "Malaysian Kitchen". This is a government funded project and one of its objectives was to promote Malaysian cuisine to the international market. Food tourism or culinary tourism has been linked to cultural tourism. In this regard, the tourism industry is focusing on a new tourism paradigm (Bernama, 2008).

There is an emerging trend of tourists or travelers who tailored their trip based on food and those activities related to food (Hall and Sharples, 2003). Ab Karim (2006) confirmed that there is a significant correlation between destinations' food image and the travelers' intention to visit and it was also proved that there is strong relationship between the importance of information sources and intention to visit the place. Malaysia is in the position to become a destination for food tourist who seeks authentic food experiences. Reynold (1993) described that "food is perhaps one of the last areas of authenticity that is affordable on a regular basis by the tourist". Additionally, Cohen and Avieli (2004) stated that the food images of a destination have always been in the tourists' mind.

There is a need to improve the image of traditional food products in terms of quality. According to Monaco et al. (2006), in order to develop product or to improve existing products, it is useful to understand how consumers perceive innovative food, what their expectations are, what packaging they find more attractive and what information positively affects the buying decision and acceptability of consumers

or potential consumers. The traceability is important to improve the sensory quality in order to develop innovative products (Cayot, 2007). Nevertheless, Monaco et al. (2006), also discussed that when consumers decide to buy certain food, their choice are also driven by other information, such as nutritional properties, safety, origin, product image, packaging, brand, and price.

Additionally, Lopez and Martin (2006) reported that improvement of image of certain agro-food tourism can contribute to the social development such as new work opportunities for young people, increases in family income, attraction of foreign investment, promotion of territory board, attracting tourists, recovering people culture, promotion of the unique products and increase in the prices of land and housing. If the traditional food is well known, the products can be exported to foreign country. In Europe, the registration of traditional foods possibly will motivate their small-scale production throughout the region and expand their export potential to other countries (Tregear et al., 2007). Moreover, according to Trichopoulou et al. (2007), the mixture of 'healthy and palatable' is very attractive to the food industry and traditional foods could potentially be mass produced and exported.

Typically, traditional foods are produced and consumed in certain local areas where the local people have a great acceptance of their flavour, color and texture (Fito and Toldra, 2006). In the production of *keropok lekor*, most producers are still using traditional manufacturing practices with low competitiveness and poor efficiency. Therefore, there is a need to employ a standard processing procedure in order to maintain the quality while meeting consumer demands for safety, quality and nutritional value of these foods.

Traditionally, *keropok lekor* is precooked by boiling in water. Study by Bakar (1983) review the boiling and steaming methods in processing *keropok lekor*. The researcher found that steaming of *keropok lekor* does not prove to be feasible and the study suggested several modifications in the processing steps in *keropok lekor* preparation are essential. On the other hand, Omar et al. (2008) reviewed in terms of sustaining and promoting of this local food, more publicity should be performed continuously and producers of *keropok lekor* must achieve consistent quality and safety as it represents Malaysia's identity.

Limitations of the study

This study was limited to sample recruited at a local university. Besides that, the data gathering

method was only restricted to survey questionnaire data rather than in depth qualitative data due to financial and time constraints.

Materials and Methods

Survey

A self-administrated survey was conducted for data collection. A total of 212 respondents participated in the survey comprised of 131 women and 81 men at a public university in Malaysia. A convenience sampling technique was used to select the respondents. The questionnaire was distributed in several places within the university campus. The questionnaire was designed to determine consumer's satisfaction level, monthly consumption, main reason of consuming and preferred new additional flavour of *keropok lekor*. Participants had to evaluate the perception statements that reflect an image of the present *keropok lekor* based on five point Likert scale.

Data analysis

Data were analyzed using univariate statistics to check the distributions of frequencies and to detect the possible errors occurred during data entry. All statistical analysis were made using SPSS package.

Results and Discussions

Most of the respondents were satisfied with the present state of *keropok lekor* available in the market. About 22.2% of respondents were completely satisfied, 36.3% of respondents were mostly satisfied, and 26.9% of the respondents were slightly satisfied. The mean satisfaction level was 5.57 based on 7 point Likert scale. More than 70% of participants pointed out that the taste was the driving factor for the consumption of *keropok lekor*. More than half, of the respondents (53%) agreed that black pepper could give a better flavour to the *keropok lekor*. This research indicated that young consumers purchased *keropok lekor* mainly from food stalls (52.9%) and night markets (42%). Table 1 demonstrates the demographic profile of respondents.

Figure 1 depicts the main reason for *keropok lekor* consumption. More than 70% of the respondents stated that main reason for consuming *keropok lekor* was due to the taste. Hunger (9.34%) and convenience (9.43%) were there other reasons for *keropok lekor* consumption. Students are normally in a rush and they would prefer snack which is more convenience and cheap. In addition, only 8.49% stated that it was value for money and 2.36% indicated that it has good source of nutrient.

Figure 2 illustrates the respondents' preferences on new additional flavour of *keropok lekor*. Half of the respondents (50%) preferred black pepper as a new additional flavour of *keropok lekor*. About 18.87% of them preferred curry flavour, followed by tomyam flavour (14.62%), other flavour (13.21%) and laksa flavour (3.3%). The results indicated that new version of *keropok lekor* has to be developed and marketed. Additionally, the favoured *keropok lekor* would give more varieties to the customer.

The mean ratings of *keropok lekor* are displayed in Figure 3. The mean scores range from 3.75 to 4.15, and therefore it can be concluded that all of the attributes were perceived positively by the respondents. The highest mean score was commercializing globally (4.15), followed by popular snack (4.06), affordable price (3.99), needs an innovation (3.75), importance of packaging (3.64), and high protein (3.55). From the findings it showed that *keropok lekor* has the potential for further development. In order to sustain its presence in the future, the quality *keropok lekor* has to be enhanced.

It was found that most respondents seemed to be very satisfied with this food product (Figure 4). One of the main reasons that affect high level of consumer satisfaction on *keropok lekor* was the taste. Consumers enjoyed the taste of the product and they can find it almost anywhere.

This study shows that only 9.4% of the respondents did not consume this food product on a monthly basis. About 30.7% consumers consume this food product at least once a month (Figure 5). Although *keropok lekor* is inexpensive, customers are not consuming it regularly probably because it is deep fried.

The Spearman's Rho correlation was used to identify if there was a relationship between consumer satisfaction and consumption. The Spearman's correlation coefficient for satisfaction and consumption was 0.269. It can be concluded that there was a low positive relationship between consumer satisfaction and their consumption ($p < 0.01$).

To determine the significant difference between male and female consumer in terms of their perception, an independent T-test statistics was employed. The t-value was 2.226. It can be concluded that there was a significant difference in the consumer perception between male and female ($p < 0.05$). In this analysis, it clearly showed that male and female consumer had a different general perception towards this food product. The frequency of eating this food is one of the factors that may affect the perception among gender.

In addition, analysis of variance was used to determine whether there was a significant difference

Table 1. Demographic profile of respondents

Demographic Characteristics	N = 212	Frequency	Percent (%)
Gender	Male	81	38.2
	Female	131	61.8
Ethnicity	Malay	166	78.3
	Chinese	30	14.2
	Indian	13	6.1
	Others	3	1.4
Region Origin	Northern	53	25.0
	Eastern	64	30.2
	Western	48	22.6
	Southern	37	17.5
	Sabah & Sarawak	10	4.7

Table 2. ANOVA of consumer's perception (score) for five regions

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	1.098	4	.275	.546	.702
Within Groups	104.041	207	.503		
Total	105.140	211			

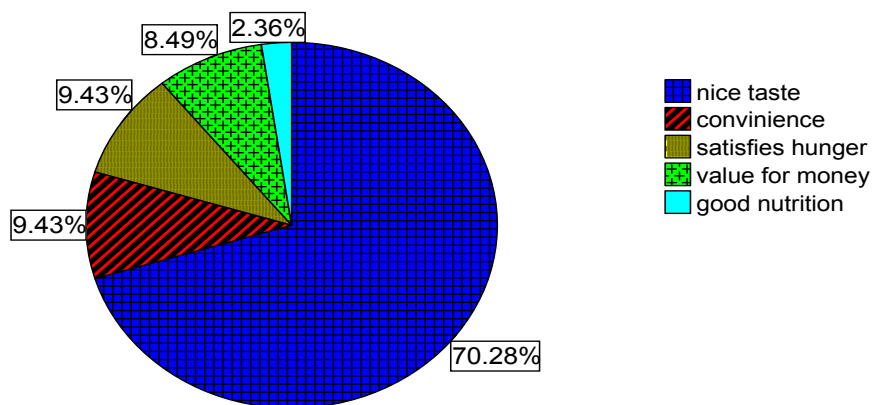


Figure 1. Main reason for consuming *keropok lekor*

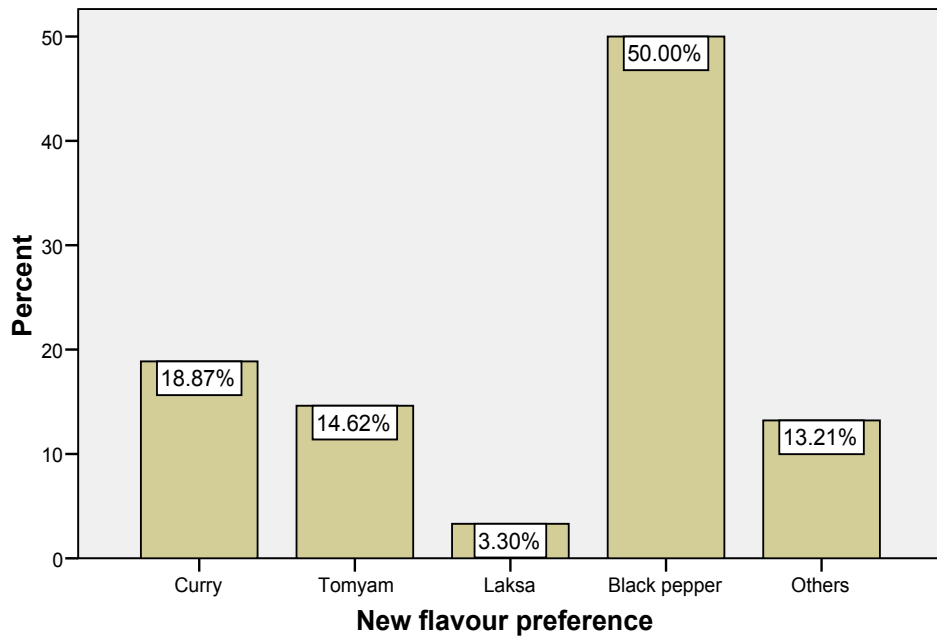


Figure 2. Preferred new additional flavour

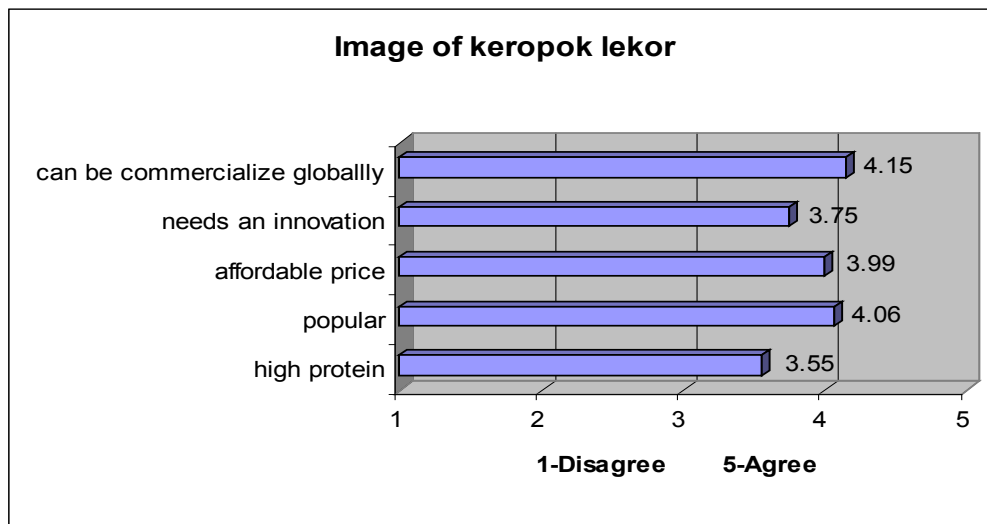


Figure 3. Image of *keropok lekor*

Note: Based on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree)

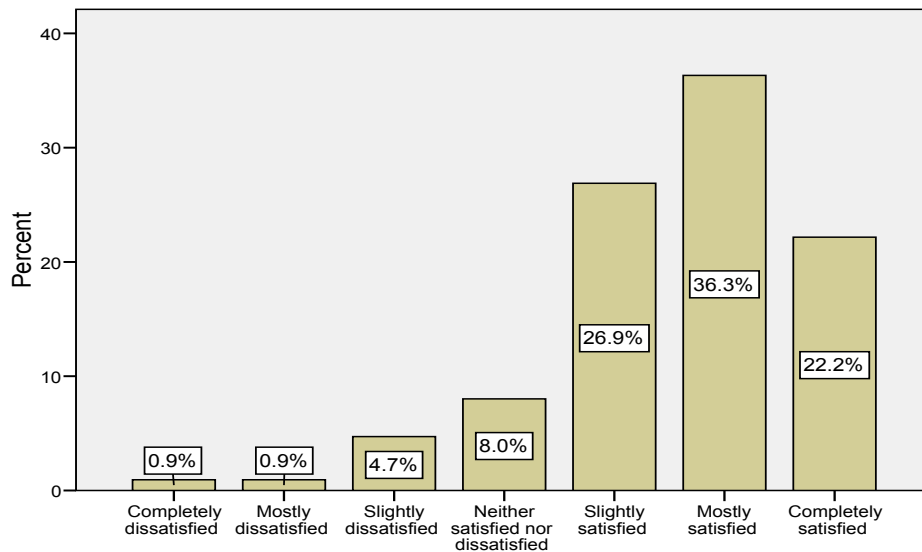


Figure 4: Consumer's satisfaction level

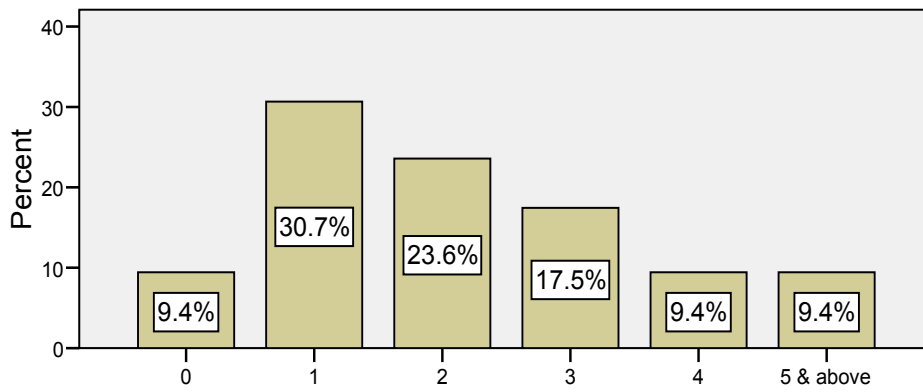


Figure 5: Frequency of consumer monthly consumption

among consumers' perception in the regions. The t-value was 0.546. It can be concluded that there was no significant difference in the perception score among respondents from western, eastern, southern and northern region of Malaysia ($p > 0.05$). This means that respondents had similar perception towards *keropok lekor* including several states in eastern region of Peninsular Malaysia such as Pahang, Terengganu and Kelantan where *keropok lekor* was originated. Table 2 below shows the ANOVA result.

Finally, Chi-Square Test of Independence was used to analyze the respondents' perception among different ethnicities. The t-value was 21.039. It can be concluded that perception was significantly dependant on the ethnicity ($p < 0.05$). This result shows that there are different views among various ethnicities in Malaysia towards this food product.

Conclusion and Recommendations

This study provides an insight into the attitudes and perceptions of *keropok lekor* among younger consumers at the university. Popularity and the expected taste of *keropok lekor* were revealed clearly. It was observed that consumers were very open when asked about new or additional flavour for *keropok lekor*. They showed interest in having new flavour. The market leaders in the industry should create several new flavours that might attract more consumers towards this product. So far, there is only one flavour being offered in the market, but with additional flavour, consumer would have more selection when purchasing *keropok lekor*. This study also confirmed that this product is recognized to have a high commercial value; therefore more efforts have to be engaged in order to boost its competitiveness in the market.

The findings also found that different ethnicity in Malaysia have different perception of this product. Since this product is produced in different regions, the taste and flavour of the *keropok lekor* are not similar. Therefore there is a need to produce a standard in order to maintain the quality of the product and to sustain it for future generations. The originality of the product also has to be preserved because previous research has found out that product authenticity is one of the most crucial features of local traditional foods (Kuznesof et al., 1997)

It must be noted that this study was conducted at a university using respondents who are familiar with this product; therefore the findings of this study could not be extended to the entire Malaysia population. Additionally, it is recommended that future studies to adopt different methodology such as qualitative

in-depth interview and focus group to analyze in detail the consumer's perception or behavior towards *keropok lekor*. The results obtained from this study have important implications in the *keropok lekor* market and should be considered for product development and commercialization processes.

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