Factors affecting consumers’ choice in purchasing local fresh fruits: case of Melaka Tengah

Zahid-Muhamad Muhamad1,*, Nur Aziera Ruslan1, Nordiana Ibrahim1, AR Saili2, Nur Amalina Ismail1

1Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA Cawangan Melaka, Jasin, 77300, Melaka, Malaysia
2Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA Cawangan Sarawak, 94300, Malaysia

*Corresponding author: zahid5264@uitm.edu.my

Abstract. This study is designed to make a comprehensive understanding of the attitude among consumers and explore the preferred place for Malaysian consumers to purchase fresh fruits. This study examined the purchasing pattern of local fruits consumers based on store attributes considered by the consumers in choosing the place for their fresh fruits purchase. A structured questionnaire was developed as a survey instrument which sought to gather information regarding the retail formats preference of the respondents. Four analytical techniques have been used to interpret the result which is descriptive analysis, cross tabulation analysis, mean analysis and Exploratory Factor Analysis (EFA). The outcome from this study revealed that consumer more preferred on traditional retail format rather than modern traditional retail format while purchasing the local fruits. Atmosphere of the retail market, competitive price, customer services and availability of various goods were identified as key determinants for consumer choosing the retail format. Based on this study, there was need for retail formats’ managers to consider what actually consumers need and wants and equilibrium between modern and traditional retailers must be met to fulfill what consumers demands.

1. Introduction
Structure of food retailing has much changed over the last few decades, and Malaysia is not an exception. Available retail formats back then include traditional markets, grocery stores, mini markets and hawkers. Majority of Malaysians purchased everything there including fresh produces, meat and other household supplies. The shift started when retail formats have developed to the emergence of shopping malls, hypermarkets and specialty stores [1]. Retail sector continues to become complex with these additional retail formats.

Furthermore, food consumption is increasing drastically all over the word due to the high population growth. Demand for fresh products, especially fruits and vegetables, has increased in order to meet the needs and preferences of consumers [2]. Based on the increasing of food consumption, the consumer behavior toward purchasing the fresh produce also was changed. According to [2], this is due to the changing in nature of the consumer especially for the urban person where they more well-educated, higher income, and preferred for the convenience. Decision making in purchasing the fresh produce among the consumers becomes more complicated due to the increasing of the consideration on the consumers. [3] indicated that three key factors that most influence consumer purchasing behavior were social factors, psychological factors and personal factors.
In the context of fresh produce which is focusing on the fresh local fruit, Malaysia produce a lot of tropical fruits annually. Incorporating this context into this study, household shoppers consistently report competitive price and quality as dominant factors in purchasing fresh fruits. Quality being a multi-faceted variable, is viewed whether the extrinsic and intrinsic value affect the customer purchasing pattern while buying this fruit from the retail shop. Extrinsic value means that the something come from the outside and influence the someone [4]. Example of extrinsic factor is the type of retail market format and the quality that available for this fruit. Intrinsic value refers to the feelings that come naturally without external influences [4]. Example of intrinsic factor is awareness of maintaining a healthy lifestyle with balanced diet. These two elements were combined together to see the purchasing pattern of local fruits.

Local fruit industry in Malaysia also faced with some problems including inconsistency of supply in for certain local fruit in local domestic market. Looking into many other local fruits issues but taking an example, pineapple; the demand for the local domestic product is higher but the supply of pineapple still insufficient enough to fulfill the local market demand. The company exports 80% of its MD2 fresh pineapples to Singapore, Hong Kong, Pakistan, the Middle East, Turkey and reserves 20% for the domestic market. The second problem is the discrimination of price for local fruit. It shows that the significant differences of prices between the pineapple varieties. Prices for Morris and Selangor Sweet pineapple are between RM1.80 and RM2.50 per kilogram while MD2 can be sold at RM6 [5]. Prices for MD2 varieties is 30-40 percent higher than other pineapple varieties. The price for certain mango especially Harumanis variety also too expensive. The Harumanis variety still sold in the local market for the price between RM 25 – RM 30 per kilo. At the moment, another substantial issue is local product presentation is still relatively lower in local market. It still lacks quality label for tropical fruit in local market. The implementation “Malaysia’s Best” as a fruit quality logo is limited which is only farms that have been accredited through the Malaysian Farm Accreditation Scheme (SALM) are allowed to use the “Malaysia’s Best” logo. Missing of quality label lead the consumer difficult to evaluate the best quality for fresh local fruit.

All these store attributes will strengthen retail personnel-consumer relationship hence increase consumers’ pleasure which will result in repetitive visit to particular store. To assess the reasons why consumers, have preference to a particular retail format, this research attempts to explore the factors affecting consumer’ key determinants in choosing the favorable retail formats in Melaka Tengah, Melaka

2. Method

A structured questionnaire was used as a survey instrument to gather information on retail format preferences among respondents. Respondents are selected from those who are frequent purchaser for household’s fresh fruits. Respondents are presented with list of items gathered from literatures concerning with store attributes choices. Characteristics of both fruits and stores are also exist in the questionnaire to capture their pattern in choosing retail formats on purchasing fresh fruits. A six point scale was utilized where respondents were required to indicate the extent to which they agree with each statement where ‘1’ was strongly disagree to ‘6’ was strongly agree.

In this study, Melaka Tengah was chosen as the research area for a number of reasons: (a) geographically, Melaka Tengah has the highest number of population with various background of citizens; (b) the availability of both modern retail outlets and traditional markets; (c) it is a region holds a good mixture of potential respondents with different levels of education, income distribution and ethnicity, which are anticipated to have some impact on the purchase and consumption of fruits; and (d) due to limited budget and time constraints, data were collected by focusing in one geographic area only. The statistics by [6] shows that the population in Melaka Tengah is 503,127. From this number, the sample taken was 192 to represent the whole area. The sample taken should be distributed uniformly in Melaka Tengah and it cannot be focus only in one area because it can cause the sampling error. There are many type of sampling technique to conduct the research. The stratified sampling had been choosing as the technique in this study. The area of Melaka Tengah was divided into several regions to obtain the equal number of sample in each type of the region until it completes the 192 of sample. From this region, the respondents were chosen through the simple random sampling. The stratified and simple random
sampling had been chosen as the technique in sample selection. The reason using these two techniques is to ensure the questionnaire were distributed uniformly to all regions in Melaka Tengah and also to avoid the sampling error.

The fieldwork was carried out from June 2017 till January 2018 at several traditional markets and modern retail outlets around the Central Melaka region. In all, 192 respondents participated in this study. Sampling in the main data collection phase required generalizability. For a sample to be representative and the results generalizable to the population of more slightly than half million (at a 95% confidence interval and a margin of error of 5%) the study would require 192 participants [7].

In this research, there were four analytical techniques that had been used to answer the research objective which is univariate (descriptive statistics) and multivariate techniques (exploratory factor analysis(EFA)). EFA was a statistical technique that is used to reduce data to a smaller set of summary variables which is called it as a factor. It is also to explore the latent variables that exists in the large sets of data. The aims by using this technique also to measure the relationship between variable and to categorize the similar item or meaning into one group. A formal hypothesis does not need in EFA because it only to determines the factors that exist in the set of data. Large set of variables were needed in EFA to ensure the variables strongly enough to explain the factor that exists. The sufficient of sample size are required for EFA to ensure the accuracy of the result from the factor analysis. The sample size of 192 were sufficient to run factor analysis [8].

3. Results and Discussion

There were 192 respondents who answered the questionnaires with 3% margin of error. From the Table 1, The Keiser-Meyer-Olkin (KMO) measure of sampling adequacy achieved meritorious level of 0.902, while the Bartlett’s test of sphericity give significant level at P< 0.0001, confirmed appropriateness of the factor model.

| KMO and Bartlett's Test | KMO and Bartlett's Test |
|-------------------------|-------------------------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy.   | .902       |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 3335.365 |
|                          | Df          | 666      |
|                          | Sig.        | .000      |

| Table 2. Factor analysis on key determinants of consumers choosing retail format market               |
|---------------------------------------------------------------|
| Item Names                                         Factor         |
|---------------------------------------------------------------|
| All prices seem obvious                | .990          |
| The freshness of the fruits is guaranteed | .860          |
| Affordable price                   | .835          |
| Clean and comfortable            | .666          |
| Diverse selection of local fruits  | .648          |
| The arrangement of fruits according to the quality grade   | .590          |
| Goods are easily available         | .567          |
| Lots of parking facilities         | .500          |
Based on the Table 2, 26 of variables have been extracted. These 26 variables were separated into 4 major factors. The first factor 1 with the Eigenvalue of 13.682 includes 9 variables with the percentage of variance explained was 35.743%. The variables involved under factor 1 were all prices seem obvious (0.990), the freshness of the fruits is guaranteed (0.860), affordable price (0.835), clean and comfortable (0.666), diverse selection of local fruits (0.648), the arrangement of fruits according to the quality grade (0.590), goods are easily available (0.567), lots of parking facilities (0.500), shop is located in strategic location (0.497). The Cronbach’s alpha for this factor was 0.915. This factor refers to the atmosphere of the retail market. This factor was the key determinants of consumers choosing favorable retails format market.

For the factor 2, it includes 5 variables with the Eigenvalue of 2.217 and the percentage of variance explained was 4.745%. The variable under factor 2 were as follows time taken to reach the store (0.927), one stop shopping convenience (0.796), availability of sales personnel to respond to my request/query (0.694), easy entry and exit within the store (0.643) and the size of the shop (0.534). The Cronbach’s alpha for this factor was 0.864. Factor 2 refers to the time saving.

Factor 3 includes 7 variables with the Eigenvalues 1.909 and the percentages of variance explained was 4.056%. The variables under factor 3 were as follows with air conditioning (0.795), facilities for children (0.723), provide trolleys and baskets (0.638), neatly fruits layout (0.602), sales promotion (0.564), good layout (0.539) and advertising on radio / TV / newspapers (0.452). The Cronbach’s alpha for this factor was 0.840. Based on the variable included in this factor, it refers to customer services.
Factor 4 includes 5 variables with the Eigenvalues 1.596 and the percentages of variance explained was 2.951%. The variables under factor 4 were as follows opportunity to offer price (0.899), provide sample/tester to the customer (0.751), return policy / refunds (0.567), loyalty to the seller (0.554) and there is a producer information label (0.465). The Cronbach’s alpha for this factor was 0.827. Based on the variable included in this factor, it refers to promotion provided at the store.

3.1. Factors that influence consumers’ decision making attributes in choosing local fruits retail market between modern and traditional retail store

When the respondents were asked on the choice of traditional or modern retail format, the findings are rather interesting. From the Table 3, The Keiser-Meyer-Olkin (KMO) measure of sampling adequacy achieved meritorious level of 0.823, while the Bartlett’s test of sphericity give significant level at P<0.0001, confirmed appropriateness of the factor model.

Table 3. KMO and Bartlett's Test: Factors that influence consumers’ decision making attributes in choosing the local fruits retail market between modern and traditional retail store

| KMO and Bartlett's Test | Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | .823 |
|-------------------------|--------------------------------------------------|------|
| Bartlett's Test of Sphericity | Approx. Chi-Square | 2011.506 |
|                          | Df       | 351 |
|                          | Sig.     | .000 |

Table 4. Factor analysis on factors influencing the choice of traditional and modern market

| Item Names                                           | Factor 1 | Factor 2 | Factor 3 | Factor 4 |
|------------------------------------------------------|----------|----------|----------|----------|
| Factor 1: Relationship with retailer                 |          |          |          |          |
| I prefer to buy fresh products from the same dealer in traditional stores | .834     |          |          |          |
| I buy local fruits from traditional stores and other household items at hypermarkets | .708     |          |          |          |
| Shopping at traditional stores saves time and energy | .704     |          |          |          |
| Local fruits in traditional stores are fresher        | .673     |          |          |          |
| Traditional store offers fresh and quality fresh produces at cheaper price | .646     |          |          |          |
| When I bought at the local market, I can return items that do not satisfy with ease | .592     |          |          |          |
| I shop at traditional stores to help local retailers | .563     |          |          |          |
| Local fruits in traditional stores are quality guaranteed | .534 |          |          |          |
| Traders in traditional store are know me better       | .506     |          |          |          |

Factor 2: Layout and customer services
Local fruits are more presentable in hypermarkets. Prices of goods in hypermarkets are showed clearly. Hypermarkets operate every day while the traditional store operates only on certain days. Customer service and customer satisfaction is important in determining which shops to buy goods. Hypermarkets offer better customer service. My children feel comfortable when I shop in hypermarkets. Users can haggle over prices in traditional store.

Factor 3: Price and quality concern

Fruits in traditional store is more expensive than modern store. Prices of fresh produces is more or less the same in traditional stores and hypermarkets. Hypermarkets has better quality of local fruits.

Factor 4: Availability of various goods

I cannot buy other household goods at the traditional store. The modern market offers reward points for every purchase.

| Eigenvalues | 8.077 | 3.556 | 1.916 | 1.296 |
| Percentages of variance explained | 29.65 | 13.17 | 7.097 | 4.802 |
| Cumulative variance | 29.65 | 42.82 | 49.92 | 54.72 |
| Cronbach’s alpha | .881 | .848 | .616 | .709 |

Based on the Table 4, 22 of variables have been extracted. These 22 variables were separated into 4 major factors. The first factor 1 with the Eigenvalue of 8.077 includes 9 variables with the percentage of variance explained was 29.65%. The variables involved under factor 1 were as follows: I prefer to buy fresh products from the same dealer in traditional stores (0.834), I buy local fruits from traditional stores and other household items at hypermarkets (0.708), shopping at traditional stores saves time and energy (0.704), local fruits in traditional stores are fresher (0.673), traditional store offers fresh and quality fresh produces at cheaper price (0.646), when I bought at the local market, I can return items that do not satisfy with ease (0.592), I shop at traditional stores to help local retailers (0.563), local fruits in traditional stores are quality guaranteed (0.534), traders in traditional store are know me better (0.506). The Cronbach’s alpha for this factor was 0.881. Based on the variables included in factor 1 it can be concluded it refers to the relationship with retailer.

For the factor 2, it includes 7 variables with the Eigenvalue of 3.556 and the percentage of variance explained was 13.17%. The variable under factor 2 were as follows: local fruits are more presentable in hypermarkets (0.733), prices of goods in hypermarkets are showed clearly (0.716), hypermarkets operate every day while the traditional store operates only on certain days (0.593), customer service and customer satisfaction is important in determining which shops to buy goods (0.588), hypermarkets offer better customer service (0.537), my children feel comfortable when I shop in hypermarkets (0.514) and...
users can haggle over prices in traditional store (0.502). The Cronbach’s alpha for this factor was 0.848. Based on the variables included in factor 2 it can be concluded it refers to layout and customer services. Factor 3 includes 3 variables with the Eigenvalues 1.916 and the percentages of variance explained was 7.097%.

The variables under factor 3 were as follows fruits in traditional store is more expensive than modern store (0.736), prices of fresh produces is the same in traditional stores and hypermarkets (0.607) and hypermarkets has better quality of local fruits (0.523). The Cronbach’s alpha for this factor was 0.616. Based on the variable included in factor 3 it can be concluded it refers to the price and quality concern. Factor 4 includes 2 variables with the Eigenvalues 1.296 and the percentages of variance explained was 4.802%. The variables under factor 4 were as follows I cannot buy other household goods at the traditional store and the modern market offers reward points for every purchase). The Cronbach’s alpha for this factor was 0.709. Based on the variable included in factor 4 it can be concluded it refers to availability of various goods.

4. Discussion
Looking on the purchasing pattern, most of the consumer more preferred on the traditional retail format rather than modern retail format when purchasing the local fruit in Melaka Tengah. Although the modern retails format was dominating the food market but the consumer still choose the traditional retail format as their most preferred retail store while purchasing their groceries. [9] stated that traditional retail format was still important in Malaysia because it contribute high percentages of purchased with 57% rather than modern retail format with the percentages only 31%. Consumer also more preferred for traditional retail format because retailers can meet the consumers’ needs and wants such as the quality which they preferred [9]. Statistic also proves that 80%-90% of consumer in Asia depends on traditional retail format regularly even the modern retail format were increase drastically [9].

Atmosphere of the retail market, time saving and convenience, customer services and promotion provided play an important thing for the consumer in choosing the favorable retail formats in Melaka Tengah, Melaka. Atmosphere of the retail market become the reason of consumer chosen that retail market. It is because the consumer always looking on the atmosphere of the retail market as their first impression before it chosen the retail market. The store atmosphere like a smell, crowding, windows display and lighting play an important role in consumers' perception and evaluation of the retail format. Clean environment also can be referred to the atmosphere of the retail format. Consumer more trusting on the quality and food safety when purchasing from the clean retail market [10]. convenience of the retail format also looking as important aspect for the consumer. Convenience bring the concept that retail being comfort and able to satisfied everything consumers’ needs [10]. Customer service provided by retail market also influence the consumer in choosing the retail market. Increase the level of customer services by providing good quality product, better knowledge to related product and personal home delivery services can enhances the consumer loyalty to that retail format [10]. These attributes should be given more emphases by both marketers and policy makers for designing and siting market place for fresh fruit markets.

5. Conclusion
The emergence of the retail market was seen drastically around the worldwide. Malaysia has been facing with phenomena of changing in retail market industry since early 1990. Fact showing that emergence of the modern retail market into Malaysia begin in early 1990 [5]. The presence of modern markets has affected the retail industry in Malaysia where the traditional market has been replaced by the traditional market. Result found that the consumer in Melaka Tengah more preferred on the traditional retail format for purchasing the local fresh fruit even the emergence a lot of modern retail format in this district. [10] stated that traditional retail is still important in Malaysia because it capture the high percentage of groceries sale compare to supermarket. Thus it is substantial for policy makers as well as marketers to know and understand the different attributes favored by fresh fruits consumers. For further studies, this research needs to be done in larger areas where it covers the entire area of the Melaka.
6. References

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Acknowledgments

The authors gratefully acknowledge the help of the Kementerian Pendidikan Malaysia and Universiti Teknologi MARA of Malaysia in providing the Lestari research grant.