

FACTORS INFLUENCING CONSUMER'S RETAIL FORMATS CHOICE FOR FRESH FRUITS PURCHASE IN KLANG VALLEY MALAYSIA

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This study attempts to identify attributes or factors influencing consumers' retail formats choice in fresh fruits (FF) purchase. The study covered consumers in Klang Valley area, Malaysia and period of the study is between June to December 2014. Seven hundred (700) respondents were randomly selected using multi-stage cluster sampling technique. The demographic characteristics result of the respondents includes their educational level, income level and their marital status. The product attributes considered most important by the fresh fruits consumers are level of ripening (72%), size and shape of the fruit (65%) and color of the fruits (63%). Freshness, safety of the product and product quality are the three factors yielded from the factor analysis. Likewise, convenience, entertainment and services offered are the retail formats attributes considered by the fresh fruits consumers. From the regression results it was observed that all the estimated factors have significant effect on frequency of visit to the traditional formats. However, only quality and entertainment were the significant factors affecting patronage of modern retail formats. The finding of this research will help the retail formats managers and policy makers identify the salient issues to be considered in fresh fruits marketing strategies.

Keywords: Attributes, Fresh fruits, Consumers, Preference.

INTRODUCTION

The coexisting of many different retail formats in Malaysia indicate that there are certain different attributes between these retail formats in satisfying consumers' needs and wants and probably for different purposes. This might be caused by different psychographic profiles of present consumers. Fresh fruits consumption and purchase decisions for example are influenced by these psychographic variants, and has somewhat shifted the marketing landscape which include retail sector. With this shift in the psychographic demographic makeup of the Malaysian consumers, it is imperative that retailers start to dissect and understand the

important attributes considered by every segment of fresh fruits consumers in the markets so that necessary marketing strategies can be formulated. As such information on factors influencing or motivate consumers' choice of retail format when purchasing fresh fruits (FF) needs to be addressed. These factors or attributes needs to be identified and determined, and hence the objective of this study is to identify attributes or factors influencing consumers' retail formats choice in FF purchase.

Literature Review

Retail formats in Malaysia can be divided into two major categories, each category with its own type of outlets having different characteristics. The

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traditional retail outlets which comprise wet markets, night markets and farmers markets are popular among consumers when purchasing fresh food and are oldest food distribution channel. The modern retail outlets comprise supermarkets, hypermarkets, convenience or departmental store (Kiran and Jhamb, 2011). The emergence of modern retail outlets in Malaysia began since early 1990s (Worsley et al., 2010). To differentiate traditional retail formats from the modern outlets, the former has little control or organization, lack of refrigeration, agglomerations of small vendors, where each vendor specialized in one fresh food line (meat, fish, fruits and vegetables) or in a sub line (fruits and vegetables) (Chamhuri and Batt, 2013). The survey conducted by Hino (2010), pointed out that, most of traditional outlets are close proximity to home and have option of purchasing on credit, bulk of fresh fruits and vegetables have been sold (Yiridoe et al., 2007). The stand-alone outlets, lack of cooling facilities in the FF section are among the characteristics of traditional retail formats outlined by Schipmann and Qaim, (2011). Retailing research council Asia by Keith Bartlett et al., (2006) made a very good distinction between modern and traditional retail formats. The differences depend on how the consumers are served and store structure. Modern retail stores are self service offerings usually having large structure.

At consumer level, household shoppers consistently reporting two dominant factors that impact upon their decision to purchase fresh fruits in retail outlets as the competitive price and quality. Quality could be viewed as extrinsic attributes (freshness, color, size and shape), intrinsic attributes (taste, flavor, texture and mouth feel), credence attributes (method of production) and service attributes which are associated with shopping experience itself such as customer advice, ambience condition, convenience and credit facilities (Hwa, 2006). A review of retail format literature and consumer patronage identified three outputs (functional, social and entertainment) that influence consumer's choice of retail formats, also consumer tend to choose to buy product by considering characteristics such as location, price, assortment, personnel, store image and services offered by retailers etc., (Boone and Kurtz, 2006). In determining the place to purchase FF, consumer's decisions involve set of attributes (Deliza et al., 2008). Chamhuri and Batt, (2013) distinguished consumer's store choice behavior when purchasing food and non-food items. Freshness is a factor attracting consumers to purchase FF from both

modern and traditional retail outlets. The study carried out in Hong Kong on wet market, indicated that all respondents considered food products purchased in the wet markets as "fresher and cheaper" than those purchased in supermarkets (Goldman et al., 1999). Hong Kong consumers were on the opinion that wet markets offered better quality products for FF, their reason was based on the services offered by the retailers of constantly trimmed, sprayed, cleaned and sorted of the fruits. But this is contrary to the consumers from Thailand, whose confidence in products quality depend solely on products at supermarkets and specialty store. There is a positive and significant relationship between frequency of visit in purchasing fresh produce and modern retail outlets. Convenience is one of the most important attributes used by the consumers in choosing retail formats for FF purchase. The concept of convenience has different meanings, depending on which retail outlet was chosen and also demographic profile of the consumers. Geuens et al., (2009) described the convenience of shopping from modern retail outlets in terms of the facilities provided such as parking lots, trolleys and baskets, proximity to other shops, extended trading hours and good presentation of the products. Others described convenience as one-stop shopping. Some consumers prefer to pay higher price to purchase their FF in supermarkets because of convenience while others prefer local markets and perceived it as more convenient. Another store attribute being considered by the consumers in choosing retail outlets for FF purchase is the services offered by the retailers. Goldman et al., (1999) confirmed that wet markets served consumers more efficiently than do supermarkets. Traditional market retailers are in direct contact with customers, respond fast to consumer's request, these contrast sharply with the limited personal contact with the consumers in modern markets. Buyers are welcome to touch and taste the products prior to making a purchase decision, have ability to negotiate the price all these provide interaction between buyers and retailers and between buyers and products (Zinkhan et al., 1999).

Despite the superiority of traditional retail formats over modern ones as reported by Goldman et al. (1999), they further reported its major weakness as viewed by the Hong Kong consumers who perceived traditional retail formats as dirty, slippery floors, crowded, smelly, unorganized, noisy, dishonesty and rudeness of retailers, inconvenience of opening hours are associated with traditional retail formats.

Table 1. Demographic Characteristics of the Respondents (n= 700).

Variables	Frequency	Percent
Ethnicity		
Malay	438	62.60
Chinese	186	26.60
India	45	6.40
Others	31	4.40
Gender		
Male	356	50.90
Female	344	49.10
Marital Status		
Single	352	50.30
Married	348	49.70
Educational Level		
Primary	16	2.30
Secondary School	154	22.0
College/University	530	75.7
Income (RM/Month)		
700 – 2,999	339	48.42
3000 – 4000	262	37.42
4001 – 7000	99	14.14

Source, field survey, 2014.

METHODOLOGY

Klang Valley area was purposively selected for this study. This area was chosen for it is the most progressive area in the Peninsular Malaysia where businesses are flourishing and consumers comprises of people from all walks of life in terms ethnicity, income level, reflecting different purchasing power, and education. Cluster sampling technique was employed because the data was collected in six clusters of the study area. Initially, it involved the clustering of the entire population in to six clusters. The six clusters include Kuala Lumpur, Putra Jaya, Petaling, Klang, Gombak and Hulu Langat. In each cluster, one city area was randomly selected. The selected areas were Kuala Lumpur, Putra Jaya, Shah Alam, Selayang town, Klang and Kajang. The respondents were selected randomly using sampling frame of any member of a household who used to purchase FF in any of the retail formats within the study area. A total of 700 respondents were used for the study and their responses were analyzed. Information regarding the demographic characteristics of the respondents and

their frequency of visit to retail formats were among data collected for the analysis. Respondents were asked if they were aware of the existence of different retail formats in their areas and also if they used to purchased fresh fruits for themselves and their family before questionnaire administration. The data was analyzed using Amos graphic to see the relationships between FF attributes as independents variables and frequency of retail format visit as dependent variable. The model specification for the relationship was depicted as " $F_q = a + B_1Fr + B_2Sa + B_3Qa + B_4Co + B_5En + B_6Se + B_7Lo$ ". Where: " F_q " is frequency of visit (number of times respondent visit the format for FF purchase), " Fr " is freshness of the fruits (perception of respondent on fruits freshness rated from 1 to 7), " Sa " is safety of the product (perception of respondent on fruits safety rated from 1 to 7), " Qa " is quality of the product (perception of respondent on fruits quality rated from 1 to 7), " Co " is convenience of the format (perception of respondent on convenience of the retail format rated from 1 to 7), " En " is entertainment at retail format (perception of respondent on entertainment at retail format, rated from 1 to 7), " Se " is services offered at the format (perception of respondent on service given by retailers, rated from 1 to 7), " Lo " is location of the retail format from the respondents' residential areas (distance in Km), " a " is the intercept and " B_1 to B_7 " estimated coefficient of the independent variables. Comparative analysis between wet market and hypermarket was done to identify significant factors influencing fresh fruits purchase in both formats.

The method used in collecting data on fresh fruits' consumer is similar to the one used by Green and Srinivasan, (1978); Gineo, (1990). Collection method was face to face interview. Six enumerators were trained and assisted for data collection.

RESULT AND DISCUSSION

Demographic characteristics of the fresh fruits consumers are depicted in [Table 1](#). The table showed that majority (62.60%) of the respondents was from the Malay ethnic group, followed by 26.60% from the Chinese while only 6.40% and 4.40% were from India and other ethnic group respectively. The result also presents the marital status of the respondents, in which about 50% and 49% of them are single and married respectively. Likewise, the population of male and female respondents is almost equal. Majority (75%) has either college or university level of education while

Table 2. Frequency of Retail Formats Visit for Fresh Fruits and Vegetables Purchase (N= 700).

	Daily		Twice in a Week		Ones in a week		Ones in a Fortnight	
Retail Format	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Wet market	37	5.30	63	9.00	110	15.50	112	16.00
Night market	-	-	122	17.40	230	32.90	90	12.90
Farmers market	-	-	127	18.10	100	14.30	79	11.30
Supermarket	99	14.10	89	12.70	126	18.00	88	12.60
Hypermarket	75	10.70	70	10.00	89	12.70	91	13.00
Convenience Store	67	9.60	49	7.00	56	8.00	71	10.10
Fruits stall	45	6.40	53	7.60	64	9.10	81	11.60

Source, field survey, 2014.

22% and 2% have secondary and primary level of education respectively. The income level of the fresh fruits consumers as depicted in Table 1, majority (48%) of the sample population earn between 700 and 2999 Malaysian Ringgit per month while the remaining 37% and 14% of the sample population earn between 3000 – 4000 and 4001 – 7000 of the Malaysian Ringgit per month respectively.

The frequency of retail formats visits and the number of times respondents used different retail formats for fresh fruits and vegetables purchases is illustrated in Table 2. As shown in the table, supermarket, hypermarket, and convenience store have the highest number of daily visits for fresh fruits purchases with 14.10 percent, 10.70 percent and 9.60 percent respectively. There is no report on daily visits to night and farmers markets, this is because, the two markets operate only twice or once in a week. Visits per week for fresh fruits purchase, night market, supermarket, and wet market have the highest frequency of about 32.90 percent, 18.00 percent, and 15.50 percent respectively.

Respondents were asked to indicate their agreement or disagreement between the listed items sought to be the characteristics of the fresh fruits considered by the respondents when purchasing the product. Table 3 indicates the frequencies and percentages of the agreement and disagreement on each variable. From the Table, the majority of the respondents (69.42%) considered the level of ripening of the fruits while purchasing the product, followed by 63% and 61% of the respondents who considered size and shape of the fruits and color of the fruits respectively as the important characteristics while purchasing the

product. The least important characteristics considered by the respondents are graded fruits, labeled fruits and braded fruits with 26.71%, 26.42% and 21.86% respectively. As color of the fruits is very important variable, Frank and Robert, (2001) made conclusion from their research on consumer preferences for color, price and vitamin C content of Bell peppers that the overall consumer sample used viewed color as more important in purchasing decision than retail price and vitamin C content. This work also is in line with that of Wadolowska et al., (2008) who confirmed and reported that the greatest influence factors on food choice (fresh fruits and vegetables) depend mostly on freshness and taste.

Likewise, respondents were asked to indicate their agreement or disagreement between the listed item in Table 4, sought to be the characteristics or attributes of the store considered by the respondents in choosing the type of retail format for their fresh fruit purchases.

From the Table, the most important attribute considered by the majority (68.43%) of the respondents was the convenient store location, followed by the distance of the store from the respondents' residential area (60.71%). The least important characteristics considered by the respondents were availability of refreshment/entertainment facilities (19.86%) and offering personalized service (22.29%). Being convenience as the most important attribute considered by the fresh fruits consumers, the finding of this research was similar to the previous research of Chamhuri and Batt, (2013) who reported one segment of the fresh produce as "transient shoppers" with the characteristics of not demonstrating any preference with regard to retail format types, rather there consideration were on

Table 3. Frequency of the respondents showing characteristics of fresh fruits considered when purchasing the product.

Item Names	n= 700	Frequency			
		Yes	%	No	%
Level of ripening of the fruits		486	69.42	214	30.57
Size and shape of the fruits		441	63.00	259	37.00
Color of the fruits		427	61.00	273	39.00
Fresh looking of the fruits		401	57.28	299	42.71
Absence of spots/holes on the fruits		360	51.42	340	48.57
Smell and taste of the fruits		353	50.42	347	49.57
Safety of the product		326	46.57	374	53.43
Packaging of the fruits		254	36.29	445	63.57
Locally produced fruits		271	38.71	429	61.29
Imported fruits		206	29.43	494	70.57
Graded fruits		187	26.71	513	73.29
Labeled fruits		185	26.42	515	73.57
Branded fruits		153	21.86	547	78.14

Source, field survey, 2014.

Table 4. Frequency of the respondents showing characteristics of the store considered when purchasing fresh fruits.

Item Names	n =700	Frequency			
		Yes	%	No	%
One stop shopping convenience		312	44.57	388	55.43
Convenient store location		479	68.43	221	31.52
Distance of the store		425	60.71	276	39.43
Time taking to reach the store		302	43.14	398	56.86
Convenient accessibility		345	49.29	355	50.71
Easy entry and exit within the store		339	48.43	361	51.57
Enough parking space		306	43.71	394	56.29
Convenient opening and trading hours		288	41.14	412	58.86
Availability of sales personnel to respond to my request/query		315	45.00	385	55.00
Provision of information of the products by the sales personnel		208	29.71	491	70.14
Offering personalize service		156	22.29	544	77.71
Availability of refreshment/entertainment facilities		139	19.86	560	80.00
Decorative features of the store		201	28.71	499	71.29
Availability of public toilets		181	25.86	519	74.14

Source, field survey, 2014.

which retail format is perceived to be most convenient to them at the time of purchasing the fresh produce.

Principal component analysis revealed three factors each from the product and store attributes, explained 66% and 68% of the variance observed in the respondents' decision for product and store

while purchasing the fresh fruits (Table 5, and Table 6).

From the result of the product attributes in Table 5, The Keiser-Meyer-Olkin (KMO) measure of sampling adequacy achieved meritorious level of 0.827, while the Bartlett's test of sphericity gave significant level at $P < 0.0001$, confirmed

Table 5. Number of factors extracted for Product attributes considered by the consumers for fresh fruits purchase.

	Factor		
	1	2	3
Item Names			
Size and shape of the fruits is my priority when purchasing the product	0.820		
Good smell and taste of the fruit is important in making decision to buy the product	0.813		
Color of the fruits is important in making decision to buy the product	0.804		
I always concerned about the level of ripening of fruits while purchasing	0.763		
I always ensure there is no any signed of contaminations from the fruit before making decision to buy the fruit		0.805	
I always consider availability of organic fruits in making decision to purchase the product		0.799	
*I don't care about how nicely the fruits are arranged stalls while making decision to buy the product		0.736	
*I don't consider branded fruits as my priority in making decision to buy the product			0.868
*Branding is not an indication of fruits quality			0.818
*I don't have interest in purchasing imported fruits			0.775
Eigenvalues	36.67	16.63	12.744
Percentage of variance	29.38	18.76	17.902
Cumulative Percentage of Variance	29.38	48.15	66.052
Cronbach's Alpha	0.891	0.705	0.701

*These are negative questions; they were reversed before performing the analysis.

Table 6. Number of factors extracted for store attributes considered by the consumers for fresh fruits purchase.

	Factor		
	1	2	3
Item Names			
Good layout of the store make it easier for me to find whatever I need	0.870		
I prefer to go to stores with ample parking space while buying fresh fruits	0.845		
I always want to get everything in one stop shopping	0.775		
Decorative features of the store influences my decision in choosing the store for fresh fruit purchase		0.883	
Presence of children play area make me to choose the store for fresh fruits purchasing		0.853	
Attractive merchandise display influences my decision in choosing the store to buy fresh fruits		0.764	

Table 6. Contd.

*Looking how hygienic the vendors/retailers are is not my concerned when purchasing fresh fruits	0.761		
Looking how hygienic the premises are is important in making decision to purchase fresh fruits	0.753		
I prefer to choose self-service store while purchasing fresh fruits	0.675		
Eigenvalues	32.519	22.754	12.919
Percentage of variance	24.991	24.46	18.731
Cumulative Percentage of Variance	24.991	49.460	68.191
Cronbach's Alpha	0.70	0.739	0.776

*This is negative question; it was reversed before performing the analysis

appropriateness of the factor model. From the Table 5, factor one (1), with an Eigenvalue 36.67, captured four items and accounted for 29% of the variance. Collectively these five items were described as “freshness of the product”. This factor comprised items related to freshness such as size and shape of the fruits, good smell and taste, color and level of ripening of the fruits. The Cronbach's alpha of this factor was 0.891 which is relatively indicating high reliability. This factor explained how fresh fruits consumers are more concerned about the freshness the fruit is while purchasing the products by looking at physical structure of the products. Factor two (2) captured three items and had Eigenvalue of 16.63 and Cronbach's alpha of 0.705 indicating satisfactory reliability of the measurement. These three items were collectively described as “safety of the product” which include absent of any sign of contamination from the fruits, availability of organic product and how nicely the fruits are arranged. This factor explained

how fresh fruits consumers are more conscious about safety and health issues while choosing the retail format for fresh fruits purchase. Factor three had the Eigenvalue of 12.7, Cronbach's alpha of 0.70 and percentage of variance explained of 17.9. These items were collectively described as “quality of the product” which also include considering of branded fruits and imported ones.

Table 6 also reveals three factors captured from the principal component analysis. The Keiser-Meyer-Olkin (KMO) measure of sampling adequacy achieved satisfactory level of 0.735, while the Bartlett's test of sphericity gave significant level at $P < 0.0001$, confirmed appropriateness of the factor model. From the table, factor one consisted three items with Eigenvalue of 32.5 and about 25 percentage of variance explained. This factor was described as “convenience of the store” and they include good layout, ample parking space and one stop shopping while making decision in choosing the retail formats to buy fresh fruits. For this factor,

consumers were more concerned with physical environment of the retail formats such as good layout of the retail formats which was among factors considered by consumers. Also fresh fruits consumers might consider going to a particular retail outlet where all the households' consumables were available under one roof and where ample parking space were available. Factor two had Eigenvalue of 22 and its Cronbach's alpha of 0.73 with percentage of variance explained of 24.46. This factor was described as “Entertainment of the store”. The items described this factor include decorative feature of retail outlet, presence of children play area and attractive merchandise display. The consumers here were more concerned with in-store decoration and provision of leisure and entertainment activities such as children playing area while choosing retail format for fresh fruits purchase.

The last factor also captured three items with about 13 eigenvalue and Cronbach's alpha of 0.776. This factor was

Table 7. Standardize Estimates of Frequency of Visit of Wet market and Hypermarket Retail Formats.

Factor	Path		Estimate	S.E.	C.R.	P
Wet market						
Freshness	<---	Wet market Visit	.195	.032	5.169	***
Safety	<---	Wet market Visit	.161	.030	4.223	***
Quality	<---	Wet market Visit	.121	.023	3.181	.001
Convenience	<---	Wet market Visit	.150	.032	3.946	***
Entertainment	<---	Wet market Visit	.101	.034	2.676	.007
Services	<---	Wet market Visit	.085	.026	2.194	.028
Location	<---	Wet market Visit	-.097	.027	-2.507	.012
Hypermarket						
Freshness	<---	Hypermarket Visit	.042	.029	1.100	.271
Safety	<---	Hypermarket Visit	.022	.027	.569	.569
Quality	<---	Hypermarket Visit	.086	.021	2.248	.025
Convenience	<---	Hypermarket Visit	.023	.029	.607	.544
Entertainment	<---	Hypermarket Visit	.109	.031	2.875	.004
Services	<---	Hypermarket Visit	.055	.023	1.417	.156
Location	<---	Hypermarket Visit	-.051	.024	-1.320	.187

described as “good service of the store”. This factor related to consumers who were more concerned about the interactional relationship between fresh fruits buyers and retail format personnel. The results of the analysis for the predictors of wet market visit and hypermarket visit are presented in **Table 7**. Product attribute factors of freshness, safety and quality are significant and positively affect the frequency of visit to the wet market for FF purchases with regression weights: $\beta = 0.195$, $p = 0.0001$; $\beta = 0.161$, $p = 0.0001$; and $\beta = 0.121$, $p = 0.001$ respectively. The store attribute factors of convenience, entertainment and services have significant and positive effect on frequency of visit to the wet market for FF purchases. However, location has significant but negative effect on frequency of visit to the wet market for FF purchases. For hypermarket visit, it is the entertainment factor and quality factor have significant and positive effect on frequency of visit to the hypermarket for FF purchases.

CONCLUSION

The existence of different retail formats in the study area that provide different varieties of services to the fresh fruits consumers indicates the presence of different attributes used in fulfilling and satisfying different segment of fresh fruits (FF) consumers.

There is a need to understand these important attributes so that relevant marketing strategies can be grafted and hence is the objective of the current study. Seven hundred (700) respondents were randomly selected using multi-stage cluster technique and questionnaires were designed as an instrument for the data collection. Descriptive statistics, item parceling and factor analysis were used in analyzing the data. The demographic characteristics results of the respondents include their education level, income level, marital status as well as their age groups. Majority (75.7%) have either college or university level of education. About 48% of the respondents earn between RM 700 to 2999 per month. From the result of the study, night market and super market have the highest number of fresh fruits consumers' patronage with 62% and 58% respectively. The product attributes considered most important by the fresh fruits consumers are level of ripening (69.42%), size and shape of the fruit (63%) and color of the fruits (61%).

From the factor analysis results, there were different preferences and priority among fresh fruits consumers. Based on this, there is need for retail formats' managers to considered individual group of the consumers' needs and wants in order to control and capture a targeted group of fresh fruits consumers. Convenience and formats location were the most important attributes considered by the fresh fruits consumers in choosing the retail format

to purchase fresh fruits product. Freshness, safety of the product and product quality were the three factors yielded from the factor analysis. There is need for the policy makers to consider these salient issues from the production stage, transportation and marketing stage for improvement. Likewise, convenience, entertainment and good services are the factors yielded from the data of retail formats attributes considered by the fresh fruits consumers.

All factors are significant in estimating frequency of visit to wet market retail formats for FF purchases. Perception of freshness and safety are the most important factors followed by convenience factor. Increasing perception of consumers on freshness and safety of FF at wet market by 1 unit standard deviation will increase frequency of visit to wet market by about 0.19 and 0.16 standard deviation respectively. On the other hand, increasing perception of FF consumers on quality of the product at hypermarket by 1 unit standard deviation will increase frequency of visit to hypermarket by 0.086 unit standard deviation. Improvement on entertainment by 1 unit standard deviation will lead to increase in the frequency of visits to hypermarket by 0.109 unit standard deviation.

In conclusion, from the result of this study, it appears that, even though modern retail formats patronized by majority of consumers, in fresh fruits purchasing, there are also large number of consumers that are still loyal to traditional retail formats for their fresh fruits purchasing. The finding of this research will help the retail formats managers and policy makers on these salient issues to be considered in fresh fruits marketing strategies as well as the ways they can improve in fulfilling fresh fruits consumers' needs and wants and hence it will help in retaining the customers to particular format.

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