



UNIVERSITI PUTRA MALAYSIA

***FACTORS INFLUENCING CONSUMER'S PREFERRED RETAIL FORMAT
FOR FRESH FRUITS AND VEGETABLES PURCHASE IN KLANG
VALLEY, MALAYSIA***

ABDULLAHI AUWAL GINDI

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KLANG VALLEY, MALAYSIA**

By

ABDULLAHI AUWAL GINDI

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirements for the Degree of Doctor of Philosophy**

May 2016

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DEDICATION

This thesis is dedicated to the entire members of my family, including my late wife Hafsatu Sani (of blessed memory, may her Soul rest in perfect peace)



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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the Degree of Doctor of Philosophy

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May 2016

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Several inter – linked socio – economic phenomena including urbanization, population and income growth and its associated changes in lifestyle of people, household structure, and growing young population, have dramatic impact on the way fruits and vegetables are produced, distributed, purchased and consumed. For most developing and emerging countries, including Malaysia, traditional retail formats are being strongly competed by modern retail formats especially for freshly food produce. Before the emerging of modern retail formats, the Malaysian consumers have no choice than to patronized traditional retail outlets for fresh fruits and vegetables purchases. But with the emergence of modern retail outlets in 1990s, which provides Malaysian consumers more alternatives on how and where to make fresh fruits and vegetables shopping. Alongside with this development from the consumers' perspective, the competition within retailing in Malaysia has intensified. There is a need for the retailers as well as policy makers to have valid, accessible and practical information about consumers' knowledge, behavior and their demand for retail formats choice for fresh fruits and vegetables purchase. This is the aim of the study of identifying attributes that influencing consumers' retail formats choice in fresh fruits and vegetables purchase. This study considered consumers of FFV from hypermarket, supermarket, wet market, farmers market and night market. Klang Valley is the area for the study, and was clustered into six clusters. One town was chosen from each cluster and one hundred fifty respondents each were randomly selected from Kuala Lumpur and Putra Jaya and one hundred each from the remaining clusters, which makes total sample size of 700 respondents used for the study. Structured questionnaire was the instrument used for data collection and collection method was face-to-face interview. Descriptive statistics, confirmatory factor analysis, and structural equation modeling were used in analyzing the data. The demographic characteristics of the respondents include their education level, income level, marital status, ethnic groups of the respondents as well as their age groups. Majority (76%) have either College or University level of education. About 47% of the respondents earned between RM 3001 to 4000 per month and majority (54%) is within age group of 18 to 39 years. The composition of ethnic groups revealed that 63% are Malay

ethnic group, 26% Chinese, 6% India and 4% non-indigenous. In terms of product attributes considered by respondents, level of ripening of the FF turns out to be the most important factor for the consumers while purchasing the product (73 percent). In terms of store attributes considered by the respondents in choosing the type of retail formats for FF purchase, convenience store location turn out to be the most important factor in retail format choice (71.7 percent). Retail format preferred very much by the consumers for FFV purchase are night market, supermarket and farmers' market. The least preferred retail formats in their ranking order are convenience store, fruits stall, wet markets and hypermarkets. For the structural models of all FF and FV retail formats choice (night market, wet market, farmers' market, super market and hypermarket), the goodness-of-fit (GOF) measure demonstrated that all the retail format choice models have good model fit (i.e. for FF night market, $\chi^2/df= 3.537$, GFI= 0.922, AGF= 0.897, CFI= 0.944, TLI= 0.933 and RMSEA= 0.060). The results of some of the retail formats choice models support the proposed hypotheses for the FF night market model; for example choice of night market for FF purchase is significantly associated with products attributes related constructs [perceived freshness ($\beta= 0.101$), perceived quality ($\beta= 0.09$) and perceived safety ($\beta= 0.26$)]. In terms of mediation effect, the result indicates that perceived value and attitude mediate the relationships between perceived quality and retail formats choice only. But perceived value and attitude are not mediators on the relationship between freshness and safety for all the retail formats. Moderation effects of socio demographic variables were tested, and results showed the moderation effect of most of the variables. The finding of this research increases our understanding on the attributes influencing FFV consumer's preference towards different retail formats, the relationship between the attributes and different retail format choice. This research can be used by retail managers for assisting them to prepare effective marketing strategy. It can also be used by policy makers by increasing their insight into FFV retail formats and FFV consumers' preferences toward such retail formats for good development of interventional policies to support and improve the welfare of both consumers and retailers.

Abstrak tesis yang dibentangkan kepada Senat Universiti Putra Malaysia dalam memenuhi keperluan untuk Ijazah Doktor Falsafah

**FAKTOR YANG MEMPENGARUHI PILIHAN PENGGUNA TERHADAP
FORMAT RUNCIT DALAM PEMBELIAN BUAH-BUAHAN DAN
SAYURAN SEGAR (FFV) DI LEMBAH KLANG, MALAYSIA**

Oleh

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Beberapa faktor berkaitan sosioekonomi termasuk pembedaran, populasi dan pertumbuhan pendapatan serta perubahan berkaitan gaya hidup penduduk, struktur isirumah dan pertambahan penduduk muda, mempunyai kesan dramatik dalam penghasilan, pengedaran, pembelian dan penggunaan buah-buahan dan sayur-sayuran. Bagi kebanyakan negara-negara yang membangun, termasuk Malaysia, format peruncitan tradisional disaingi oleh format peruncitan moden terutamanya bagi produk makanan segar. Sebelum kemunculan format peruncitan moden, pengguna di Malaysia tidak mempunyai pilihan selain daripada mengunjungi kedai-kedai runcit tradisional untuk tujuan pembelian buah-buahan dan sayur-sayuran segar. Namun, dengan kemunculan kedai runcit moden pada tahun 1990-an, ianya telah menyediakan alternatif kepada pengguna di Malaysia dalam memilih untuk bagaimana dan di mana untuk membeli buah-buahan dan sayur-sayuran segar. Pada masa yang sama, ada juga perkembangan daripada perspektif pengguna di mana terdapat persaingan sengit dalam peruncitan di Malaysia. Adalah menjadi keperluan untuk peruncit-peruncit dan juga pembuat dasar untuk mendapatkan maklumat yang sah, mudah diakses dan praktikal mengenai pengetahuan, tingkah laku dan permintaan pengguna terhadap pilihan format peruncitan buah-buahan dan sayur-sayuran segar yang akan dibeli. Ini merupakan matlamat kajian iaitu mengenalpasti atribut yang mempengaruhi pilihan pengguna dari segi format peruncitan buah-buahan dan sayur-sayuran segar ketika membeli. Data telah dianalisis dengan menggunakan statistik deskriptif, analisis faktor dan model persamaan struktur (Structural Equation Modelling). Kajian ini mengambilkira pembeli buah-buahan dan sayur-sayuran segar dari pasar raya hiper, pasar raya, pasar basah, pasar tani dan pasar malam. Lembah Klang adalah merupakan kawasan kajian, dan dikelompokkan kepada enam kluster. Satu bandar telah dipilih daripada setiap kluster dan seratus lima puluh responden dipilih secara rawak dari Kuala Lumpur dan Putrajaya, selebihnya masing-masing dari kelompok yang lain menjadikan sebanyak 700 responden digunakan untuk kajian. Soal selidik berstruktur digunakan untuk pengumpulan data, menggunakan kaedah temuduga bersemuka. Statistik deskriptif, analisis faktor pengesahan, dan pemodelan persamaan struktur digunakan dalam menganalisis data. Keputusan ciri-ciri demografi responden adalah

termasuk tahap pendidikan, pendapatan, status perkahwinan, kumpulan etnik serta kumpulan umur. Majoriti (76%) mempunyai pendidikan sehingga ke tahap kolej atau universiti. Kira-kira 47% daripada responden memperoleh pendapatan di antara RM3001-RM4000 sebulan, dan kebanyakan responden (54%) adalah terdiri daripada kalangan kumpulan umur dari 18 hingga 39 tahun. Daripada segi komposisi kaum, 63% adalah Melayu, 26% Cina, 6% India dan 4% lain-lain. Daripada segi atribut produk yang dititikberatkan oleh responden, tahap kematangan buah-buahan dan sayur-sayuran segar ternyata menjadi faktor yang paling penting untuk pengguna semasa membeli produk (73 peratus). Daripada segi atribut kedai yang dititikberatkan oleh responden dalam memilih jenis format peruncitan untuk pembelian buah-buahan dan sayur-sayuran segar, lokasi kedai runcit lokasi ternyata menjadi faktor yang paling penting dalam pilihan format runcit (71.7 peratus). Format runcit yang amat disukai oleh pengguna untuk pembelian buah-buahan dan sayur-sayuran segar adalah pasar malam, pasar raya dan pasar tani. Format runcit yang paling kurang digemari mengikut kedudukan adalah kedai runcit, gerai buah-buahan, pasar basah dan pasar raya besar. Bagi kesemua pilihan format runcit bagi buah-buahan dan sayur-sayuran segar (pasar malam, pasar basah, pasar tani, pasaraya dan pasar raya besar), kesemua model menunjukkan *goodness-of-fit (GOF)* yang baik dan bersesuaian (contohnya untuk buah-buahan segar di pasar malam, $\chi^2/df= 3.537$, GFI = 0.922, AGF = 0.897, CFI = 0.944, TLI = 0.933 dan RMSEA=0.060). Keputusan beberapa model pilihan format peruncitan menyokong hipotesis untuk model buah-buahan segar di pasar malam; sebagai contoh: pilihan pasar malam untuk pembelian buah-buahan segar adalah signifikan berkaitan dengan konstruk-konstruk produk berkaitan [produk dianggap segar ($\beta=0.101$), produk dianggap berkualiti ($\beta=0.09$) dan produk dianggap selamat ($\beta=0.26$)]. Daripada segi kesan pengantaraan, keputusan analisis menunjukkan bahawa anggapan nilai dan sikap merupakan pengantara hubungan di antara kualiti dan format runcit pilihan sahaja. Tetapi anggapan nilai dan sikap tidak menjadi pengantara kepada hubungan di antara kesegaran dan keselamatan untuk semua format runcit. Kesan kesederhanaan pembolehubah sosio-demografi juga diuji, dan keputusan menunjukkan kesan yang sederhana kepada kebanyakan pembolehubah. Dapatan daripada kajian ini dapat meningkatkan pemahaman kita mengenai atribut buah-buahan dan sayur-sayuran segar yang mempengaruhi kegemaran pelanggan terhadap format peruncitan yang berbeza. Kajian ini boleh digunakan oleh peruncit-peruncit untuk membantu mereka menyediakan strategi pemasaran yang berkesan. Ia juga boleh digunakan oleh pembuat dasar dengan meningkatkan pengetahuan mereka terhadap format runcit dan pilihan buah-buahan dan sayur-sayuran segar oleh pengguna, untuk pembangunan dasar yang baik untuk menyokong dan meningkatkan kebajikan pengguna dan peruncit.

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I certify that a Thesis Examination Committee has met on 31 May 2016 to conduct the final examination of Abdullahi Auwal Gindi on his thesis entitled "Factors Influencing Consumer's Preferred Retail Format for Fresh Fruits and Vegetables Purchase in Klang Valley, Malaysia" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

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LIST OF ABBREVIATIONS

AIC	Akaike Information Correction
AMOS	Analysis of Moments Structure
AGFI	Adjusted Goodness Fit Index
AVE	Average Variance Extracted
CFA	Confirmatory Factor Analysis
CR	Construct Reliability
DF	Degree of Freedom
EFA	Exploratory Factor Analysis
FAMA	Federal Agricultural Marketing Authority
FF	Fresh Fruits
FTPP	Fairness Trade Practice Policy
FV	Fresh Vegetables
FFV	Fresh Fruits and Vegetables
GFI	Goodness Fit Index
GOF	Goodness-Of-Fit
KMO	Kaiser-Meyer-Oklin
LDCs	Less Developed Countries
MCC	Malaysian Competition Commission
NFI	Normed Fit Index
PNFI	Persimony Normed Fixed Index
RMSEA	Root Mean Square Error of Approximation
S-O-R	Stimulus- Organism-Response
SEM	Structural Equation Modeling
TLI	Turker Lewis Index
χ^2	Chi –square

CHAPTER 1

INTRODUCTION

1.1 Introduction

The introductory part of this research gives the general background of the study, its problem statement, research questions, objectives of the study, significance of the study, conceptual definitions of relevant terms and organization of the study are presented in this chapter.

1.2 Background of the Study

The retailing landscape has changed significantly during the last two decades. The retailing industry in the world has converted from the domestic market-based traditional market format of the past to large scaled modern retail formats. Income, technology and lifestyles of consumers are changing, even from whom they buy are changing. The location or the place where they buy is changing; the shops are opened closed according to the convenience of the buyers. The purchasing function has gained great importance and the desires, expectations and preferences of consumers have been changing rapidly in the competitive markets due to factors such as products' safety, quality, and convenience of where and when to purchase the product. In Malaysia, as in many emerging economies, there have been drastic changes in the retail industry. Although there have been many local (traditional) retail formats such as night markets, farmers market and wet market, many modern retail formats of super and hypermarkets trend are increasing. Table 1:1 below shows the number of retail outlets in Klang Valley area, Malaysia. Despite the increasing number of modern retail formats, Federal Agricultural Marketing Authority (FAMA) is planning to open more farmers' markets. In the same vein, night market and wet market are expanding thus these have intensified the competitive activities and development of new competitive strategies for the retail formats.

Table 1.1: Distribution of Retail Formats in Klang Valley Area Malaysia

Retail Format	Number of Outlet	Percentage
Night Market	241	25.29
Wet Market	78	8.18
Farmers' Market	131	13.75
Supermarket	336	35.25
Hypermarket	167	17.52

Source: Federal Agricultural Marketing Authority and Ministry of Domestic Trade, Cooperative and Consumerism Websites (retrieved on 17th September, 2015)

Freshness is a factor attracting Malaysian consumers to purchase FFV from either modern or traditional retail outlets. The more the consumers have impression about

freshness of the produce offered by a retail format, the more they have willingness to patronize the format for FFV purchase. There is conflict opinion among Malaysian consumers on the issue of which retail format offers fresh product. On the other hand, quality perception is a significant factor for retail outlets choice, and it is linked to the health attributes of safety and food quality (Suddeephong, 2004).

Before 1990s, traditional retail formats have been the main channel of fresh product distribution and are the main places for Malaysian consumers to buy fresh products. Traditional markets have several competitive advantages such as providing fresher products at a low price. Moreover, residents can satisfy their own preferences from a wide variety of fresh products and they can bargain over the price of the products, which for some consumers is enjoyable. However, as a traditional business format, the disadvantages of traditional retail formats are becoming increasingly apparent with the development of the modern retail system. For example, in traditional retail formats, stores are cluttered, dirty, and disorganized, which not only results in a poor shopping environment, but also causes food safety issues because of the difficulty of supervising food sources. Food safety issues are crucial to government, retailers and Malaysian consumers. A report by Daily Express of East Malaysia, indicating an incident of food poisoning where more than 39 food poisoning cases involving 849 students have been recorded in 16 schools in Sabah (Shirlin, 2012). In this respect, apart from the enforcement of various laws by policy makers, there is need for organizing programs for promoting food safety and creating awareness that the Government, consumers and food industry players have a huge role to play in prevention of food poisoning and related food issues and ensuring safe food supply domestically and internationally.

Consumers usually have more than one preference of retail to choose for grocery shopping. It is more convenient for consumers to purchase different categories of products at one place. Due to this issue, a lot of consumers may prefer to go to hypermarket to purchase fresh product such as fruits and vegetables, fine meat and groceries. There are many varieties of products in both traditional and modern retail formats with diverse quality and prices. These caused competition to be more intense among the retailers. Consumers usually prefer to go to a large scale modern retailer for major purchase to gain better assortment, prices, discounts and special offers.

With rising affluence and education levels, consumers' shopping and lifestyles have changed drastically over the years. Malaysian, especially in urban areas, prefers to shop in modern retail outlets, which offer them one-stop shopping options. However, traditional retail outlet such as farmers' market and wet market which are conveniently located in residential and workplaces are still popular. Foreign owned hypermarkets are fast gaining popularity in Malaysia, attracting customers with their "one – stop" and "all under one roof" concepts. Since then, foreign retailers have been expanding rapidly in Malaysia. According to a multi-attribute model, consumer's attitudes toward a retail store is a function of the degree of importance attached by the consumers to various store attributes and consumers perception of the degree to which retail store possess each attribute. Consumers engage in comparison process in their minds to determine whether their evaluation of the relative importance of a store attributes align with their perceptions of these attributes (Moye, 2000). If the two

factors matches, then the consumer chooses the store. The overall perceptions of the consumers determine the acceptance or rejection of a store, if the perceptions of the store attributes are positive, the consumers decide to purchase from the store. On the other hand, if perceptions of the store attributes are negative, the consumers unlikely to make purchase from the store. Some of the most reported store choice attributes by the consumers include price, product quality, assortment, location, store atmosphere and sales personnel.

Despite the obvious importance of detecting store attributes that influencing consumer decisions, research suggests that the perceived importance of specific store attributes may be partly determined by the personal characteristics of the consumer. This may lead to heterogeneous preferences that vary amongst people with different characteristic profile. The weightings attached to different retail store characteristics may differ between the consumers' socio – demographic variables, psychographic characteristics, product usage, and level of patronage and purchasing motives; these will influence the consumers in making choice on their preferences among different retail formats available (Chamhuri & Batt, 2009). While these criteria may reflect store choice behavior and explain the reasons why shoppers patronize one store or another, there is a need to distinguish consumers' store choice behavior when purchasing food and nonfood. Chamhuri and Batt (2009) identified five major themes as drivers influenced consumer's decision to purchase fresh meat from either a modern retail outlets or traditional markets. These factors are the physical attributes of the product, competitive price, personalized service by the traditional vendors, convenience and clean environment.

1.3 Problem Statement

Before the emerging of modern retail formats, the Malaysian consumers have no choice but to patronize traditional retail outlets for fresh fruits and vegetables purchases. The emergence of modern retail outlets of super and hypermarket retail formats in 1990s has undoubtedly benefited Malaysian consumers at large due to their better offerings, including procurement practices, emphasis on quality and safety issues, volume and product consistency to mention a few. With this development in retailing industry, the numbers of consumers who are patronizing these modern retail formats for FFV purchases is at an increasing trend and this warrants new concerns among traditional retailers. Coupled with the advantages of modern retail formats over the traditional outlets, the loose restrictions by Malaysian government on foreign retailers had increased the opportunities for foreign retailers. For example, the policy granting hypermarket licenses to an area with a population of less than 350,000 had witnessed the hypermarket expanded to the urban cities as well as secondary towns (Sharkawi et al., 2014). Health and safety issues are always the points of concern to the Malaysian population, especially pertaining to agricultural chemical residues and other. Investigating how consumers' perception of health and safety food was linked to retail formats choice for fresh fruits and vegetables purchases is desirable knowledge for retail industries. With consumers demand for a wider choice, aware of what kind of food and where to make their purchases, their lifestyle changes along with favorable economic conditions, Malaysian consumers are reviewing where they will do their fresh fruits and vegetables purchase (Chamhuri & Batt, 2013a). Alongside

with this development of the consumers' perspective, the competition within two retail industry in Malaysia has intensified. There is a need for the retailers as well as policy makers to have valid, accessible and practical information about fresh fruits consumers' knowledge, behavior and their demand on retail formats choice for fresh fruits and vegetable purchases. Unless this information is made available, it is difficult for the retailers and policy makers to know exactly fresh fruits consumers' demand pattern and hence making any policy intervention to develop fresh fruit and vegetable retail sector would be bolted.

Different consumers' demographic characteristics are present in Malaysia, and even within a particular demographic profile, it can be split into more discrete of consumers, characterized by their perception on fresh fruits and vegetables (FFV) purchases. For example, consumers in a particular area in Malaysia might have distinct social-economic groups having very different FFV preferences as well as very different physical and economic access to FFV. For effective marketing strategies, retail format managers, policies and programmed planners must be cognizant of how specific target groups perceives, acquires and use FFV. What may be appropriate for one consumer may not be relevant to another. Identifying population groups and their preferences toward different formats in purchasing FFV and understanding why they prefer a particular retail outlet format to another is essential for developing sound intervention.

1.4 Research Questions

The above scenarios have generated the following research questions which need to be addressed;

1. What are the store attributes that have influence on consumers' preference toward purchasing FFV?
2. What are the product attributes that motivate consumers' choice of retail format when purchasing FFV?
3. How do consumers choose among alternatives retail formats when purchasing FFV?
4. Which loyalty driver's campaign approach has significant influence on retail format preference?
5. What are the consumers' demographic factors that influence their choice of retail formats?
6. How do psychographic variables mediate the relationship between product attributes, store attributes and retail formats choice?
7. How do consumers' demographic factors moderate the relationships of the attributes on retail formats choice?

1.5 Objectives of the Study

The broad objective of the study is to investigate factors influencing consumers' preferred retail format for purchasing FFV in Malaysia.

The specific objectives are:

1. To identify attributes influencing consumers' retail formats choice in FFV purchase;
2. To evaluate the relationship between attributes and FFV retail formats choice;
3. To identify mediating role of psychographic factors on retail format choice for FFV purchase;
4. To determine moderating effect of demographic factors on retail format choice for FFV purchase;

1.6 Significance of the Study

The findings of this research would be beneficial to the policy makers for thoroughly understanding and increasing their insight into fresh fruits and vegetables retail format industry. The finding of the research would also help in understanding fresh fruits and vegetables consumers' preferences toward retail format for good development of interventional policies. This will support and improve the welfare of both consumers and retailers. The research finding will also help the fresh fruits and vegetables industries in finding out the attributes influencing consumers' choice and preferences toward retail formats. This will help industries to have a better understanding of consumers' demands and needs which can facilitate effective marketing strategies to reach the individuals in their target markets. Additionally, the study will also benefit specifically the local and international fresh fruits and vegetables producers and retailers by gaining more information and better understanding of the key factors (relating to product and retail formats) influencing Malaysian fresh fruits consumers for their fresh fruits and vegetables purchases at different retail formats, based on the outcome of this research, can further improved their overall marketing strategies in terms of improving on the uncovered attributes considered by the consumers for their fresh fruits and vegetables purchases. This finding also hopes in filling the knowledge gap of factors influencing consumers' preferences toward retail formats choice for fresh fruits vegetable purchases in the existing literatures. The findings will provide suggestions for various agencies involved in marketing and distribution of fresh fruits and vegetables in Malaysia.

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