# Determinant Attributes Influencing Retail Pharmacy Selection by Malaysian Consumers

## Chapter 1: Introduction

### 1.0 Introduction

In this chapter, an introduction to the research including the retail healthcare situation in Malaysia, the issues being faced, the research objective and the questions that the research is attempting to answer. The scope and significance of the study in the Malaysian context is also discussed.

### 1.1 Research Background

There are a total of 8,632 registered pharmacists and 2,000 community pharmacies in Malaysia. Community pharmacies are also known as retail pharmacies. Out of the total pharmacists, 5,288 are in the government sector while 3,344 are in the private sector (Ministry of Health Malaysia Health Facts, 2012). Out of this total, 3,000 pharmacists practice in the retail sector based on the licenses issued in 2009 (Ministry of Health Malaysia Pharmaceutical Services Division Report, 2009). Penang and Klang Valley contribute 56% of all the retail pharmacies in Malaysia. The ratio of pharmacist to population in Malaysia is 1:3,355.

It has been estimated that the economic contribution of the retail pharmacies was RM847 million in 2009 (NST, 2006); and could reach RM1 billion by 2012. Under the Pharmacist Registration Act 1951 (revised 1989), only registered pharmacists can open and operate a retail pharmacy outlet. This requires a Ministry of Health Malaysia (MOH) recognized degree in pharmacy which takes 4 years to complete and a year of housemanship training. Upon becoming registered pharmacists, a one year mandatory public service with the government sector is required. Before 2008 the mandatory service was three years.

There is no separation of drug dispensing and prescribing function between doctors' clinics and pharmacies in Malaysia. Although dispensing separation has been much talked about and is being considered by MOH, it is not expected for another 3 to 5 years or at least until the 1Care universal healthcare insurance is implemented. Doctors in Malaysia still dispense medications as a part of their professional practice; therefore registered pharmacists are not the only professionals with the legal right and responsibility of dispensing medications. Although the call for dispensing separation has been made for the last 20 years, the government still believes that the separation cannot be implemented due to the shortage of pharmacists. Another reason for delaying the separation is the objection of medical practitioners (Azhar, 2009). With the planned introduction of the 1Care system it is expected that congestion in government hospitals will reduce as it requires patients to visit a primary care physician for common ailments. It is expected that dispensing separation will take place when 1Care takes off (BT, 2012).

The retail pharmacy market is currently dominated by Guardian Pharmacy owned by the Hong Kong Dairy Farm Group; and the Hong Kong-based Watsons Group. There is a total of 382 Guardian pharmacies in Malaysia at (The Star, 2012) and 260 Watsons Personal Care outlet (www.watsons.com.my). In addition to these two giants, there are the homegrown retail chains: Caring Pharmacy (73 outlets), Constant Pharmacy (12 outlets), Aeon Wellness (11 outlets) and Tigas Pharma (71 stores) (Business Times Malaysia 16 Nov 2011). Tigas Pharma however is an alliance of independent pharmacies that have band together in an alliance for increased competitiveness via discounts obtainable with bulk purchases.

### 1.2 Research Problem

Most pharmacists interested in becoming an entrepreneur have limited knowledge and experience in operating a retail outlet. The most fundamental aspects of retail outlet management, operations and marketing are alien to

pharmacists who have immersed themselves in academia and science almost their entire life. It thus comes as no surprise that they find retailing a challenge. Understanding the determinants that influence potential customers in selecting a retail pharmacy outlet may assist the viability of their business. Even outlets that have been operating for almost 10 years face the challenge of meeting customer needs and keeping the business competitive.

Retail formats in Malaysia include the traditional convenience stores, drugstores (including Chinese medical halls), hypermarkets, supermarkets, modern convenience stores and specialty stores. New retail formats such as hypermarkets, supermarkets and modern convenience chain stores are slowly replacing traditional retail outlets.

This fact remains true for the drugstore category where the various formats carry overlapping product ranges. Each retail format and the retail mix employed however has different store attributes; this could be the key driver in determining store choice.

For instance, hypermarkets (e.g. Tesco®, Carrefour®) are well-known for their low price, convenient parking, one stop shopping experience but a more limited assortment of health products, while convenience stores (e.g. 7-eleven®, KK Mart®, Speedmart99®) carry the most commonly demanded over the counter drugs. Modern drugstore chains (Guardian Pharmacy®, Watson®) focus on providing a large assortment of popular health merchandise. It is very important for a standalone pharmacy to develop a competitive advantage relative to the attributes expected by customers.

Woodside and Trappey (1992) hypothesized that the most accessible attitudes that associate a given store with evaluative store attributes are highly predictive of primary store choice. Although performed on grocery shoppers the results could well reflect drugstores as well. The survey assessed key dimensions of retail store image: (1) convenience of the store's location, (2) the price of its products, and (3) the information it provides about its products.

The survey found that consumers could name a store when asked what store comes to their mind for specific attributes.

It is important for retailers to understand store image attributes that will affect consumers' shopping behaviour towards the store (Woodside and Trappey, 1992). Consumers have a general preference to shop at retail stores with attributes that satisfy their needs. An understanding of the attributes that drive purchase, satisfaction and loyalty influence important decisions pertaining to retail marketing mix.

### 1.3 Research Objective

The retail pharmacy market in Malaysia is experiencing a dramatic change in the last decade and the change is expected to accelerate in the next 10 years. Stand-alone outlets and small retail chains will face stiff competition from expanding retail chains. At the same time, the government has adopted policies that encourage the growth of hypermarkets and large scale supermarkets. This resulted in consumers being spoilt with choice.

The objective of this study is to investigate consumer behaviour in the retail pharmacy industry. The objectives of this research are:

a) To understand consumer preference on retail format of drugstores in Malaysia
b) To investigate the impact of store attributes on store choice
c) To examine the relationship between store image attributes and store satisfaction; and the relationship between store satisfaction and store loyalty
d) To provide suggestions to retailers and pharmacists

## 1.4 Research Questions

This study attempts to answer the following questions:

a) Which type of retail format is preferred by consumers in Malaysia?
b) Which store attributes have the most impact to consumers when making store choice decision?
c) Does store attributes affect consumers' store satisfaction and does store satisfaction lead to store loyalty?
d) What practical suggestions can retailers use to improve store image?

## 1.5 Significance of the Study

There have been a significant amount of studies that examine the issues of consumer shopping behaviour and retail marketing strategies to tackle the intense competition in the present retail channel in the retail industry. However, studies focusing on drugstores specifically are limited and even those were conducted in Western countries. A study in Malaysia allows a better understanding of the drugstore consumers in Malaysia.

With the increase of larger retail formats and increasing chain stores, the study aims to shed light on the specific attributes assigned to these formats and the importance of the attributes in building satisfaction and loyalty. Increased understanding of store attributes perceived important by consumers can improve marketing strategies development.

Most pharmacists dive into a retail career upon graduation and dream of owning their own store. However, with limited knowledge in retailing, consumer behaviour and marketing, they often discover that running a retail outlet is challenging. Although with experience comes wisdom, they soon discover that within several years of operating, the market dynamics change immensely.

In the last 10 years, the retail pharmacy landscape in Malaysia has changed dramatically with the exponential increase of standalone pharmacies in the 1990's, the expansion of chain stores (e.g. Guardian, Apex, Vitacare, Georgetown Pharmacy) in mid 1990's, the expansion of standalone pharmacies to become local chain stores in late 1990's, the consolidation of chain store pharmacies (e.g. Watson, Vitacare, Apex, Georgetown Pharmacy) and continued growth of Guardian Pharmacy in early 2000's and the emergence of local chain pharmacies (e.g. Caring Pharmacy) dominating the local pharmacy whilst giving foreign chains a run for their money.

These changes have made the retail pharmacy market especially competitive and ruthless, thriving on cost leadership models and little invested in the other components of the retail mix. At the same time, the preference of the consumers has changed from visiting the local traditional store to one stop hypermarket that offers convenience.

This study is one of the few focusing on store image attributes of retail pharmacies and its impact on satisfaction. It aims to shed some light on the preference and perceptions of consumers with regards to image attributes. From the results of the study and hypothesis tested, a better understanding of the Malaysian consumer is sought. The result and practical suggestions given are hoped to benefit retail pharmacists to improve store image attributes and thus develop a competitive advantage.

### 1.6 Scope of the Study

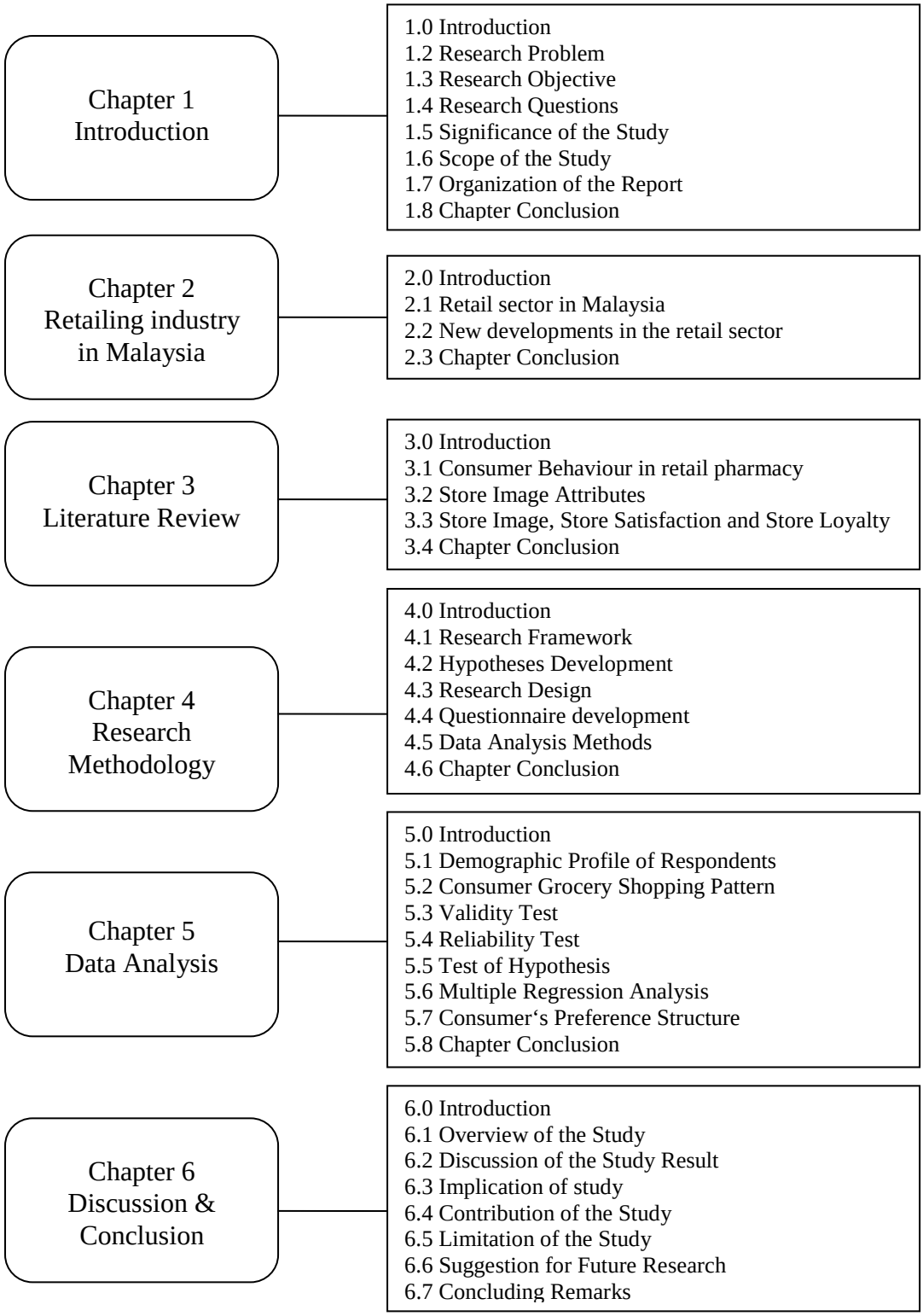
The study focuses on retail pharmacy outlet in peninsula Malaysia. Specifically, the study was conducted on consumers visiting standalone and smaller chain pharmacies in the Klang Valley, Ipoh and Bukit Mertajam using convenience sampling. Standalone pharmacies here refers to retail outlets with only a single store usually owned and operated by a pharmacist with very basic resources and knowledge on retailing. The standalone pharmacies often face stiff competition from giant chains like Guardian Pharmacy and Caring Pharmacy.

## 1.7 Organization of the Report

This report is organized into six chapters as follows (also see Figure 1):

***Figure 1***

**Organization of the report**



Chapter 1: The introduction chapter gives background information and some context to the topic of drugstore retailing in Malaysia. The research problem, study objective, significance and scope of the study is also discussed.

Chapter 2: The chapter gives an overview of the retailing industry. In addition to that, the current developments of the retail pharmacy industry in Malaysia are discussed.

Chapter 3: This chapter reviews the available literature related to the study. The chapter starts with an introduction to general consumer behaviour in retail followed by a discussion on the relationship between store image, customer satisfaction and store loyalty.

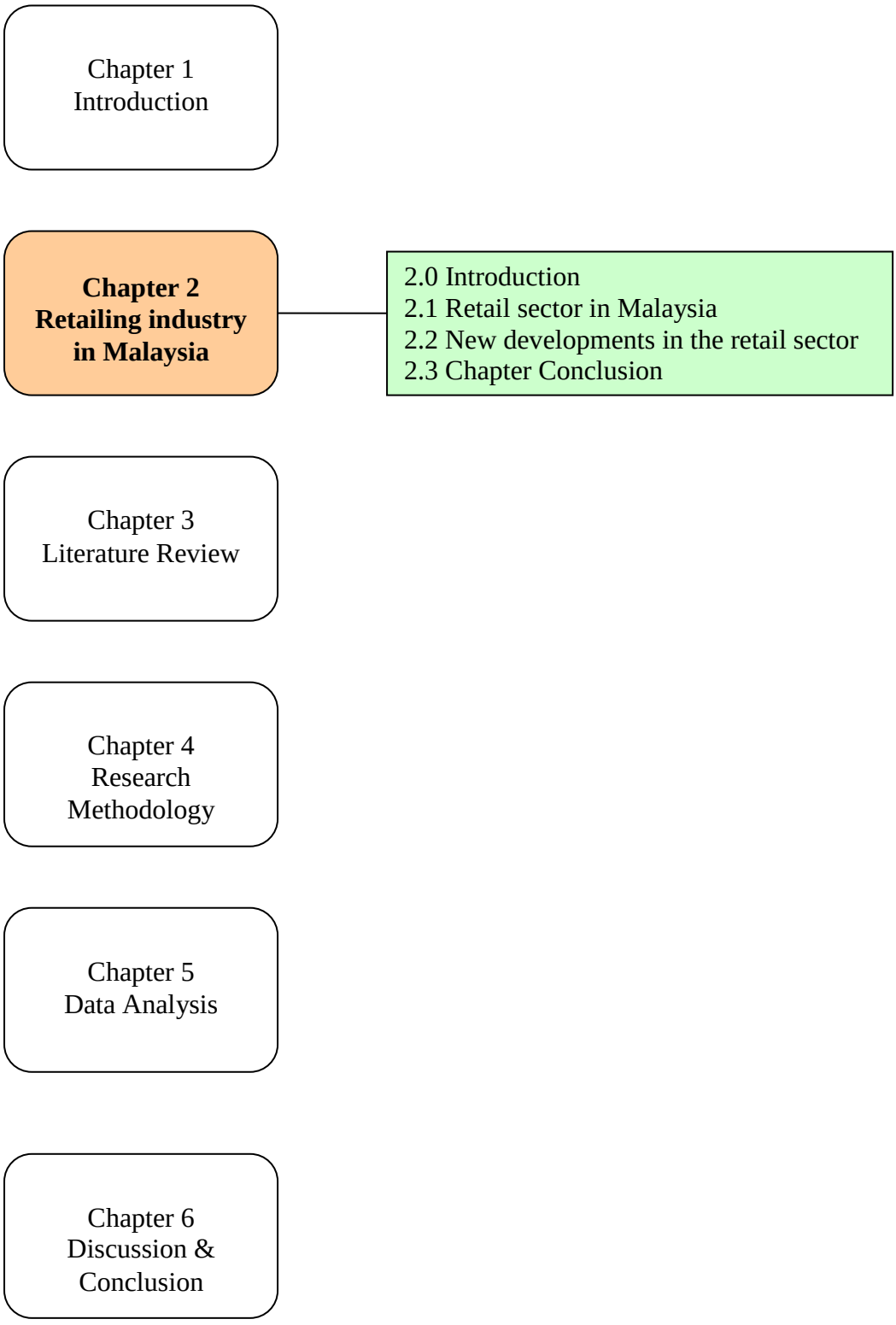
Chapter 4: This chapter outlines the methodology employed in the study. It begins with the research framework and provides the hypotheses developed. This is followed by research design and measurements instruments being discussed. It ends with techniques to be used for analyzing data.

Chapter 5: This chapter presents the results of the study. First, a description of the respondents is presented followed by an analysis on the purchasing habits of the respondents. The results of the validity test and reliability test are also discussed. It is followed by the hypotheses test results. Finally, the effect of store attributes on consumer behaviour is discussed.

Chapter 6: The final chapter will provide an overview of the study followed by the summary of the major findings, discussion of findings, implications and limitations of the study.

## 1.8 Chapter Conclusion

In chapter 1, a brief overview to the study was given. The research background, research problem, objective, research questions, the significance of the study, scope of the study and the organization of the report was discussed to give an overall picture of the study.


Chapter 1
Introduction
Chapter 2
Retailing industry
in Malaysia
2.0 Introduction
2.1 Retail sector in Malaysia
2.2 New developments in the retail sector
2.3 Chapter Conclusion
Chapter 3
Literature Review
Chapter 4
Research
Methodology
Chapter 5
Data Analysis
Chapter 6
Discussion &
Conclusion

## Chapter 2: Retail industry in Malaysia

### 2.0 Introduction

In this chapter, an in-depth analysis of the retail industry in Malaysia including the general developments in the retail sector and specifically in the retail pharmacy sector is carried out.

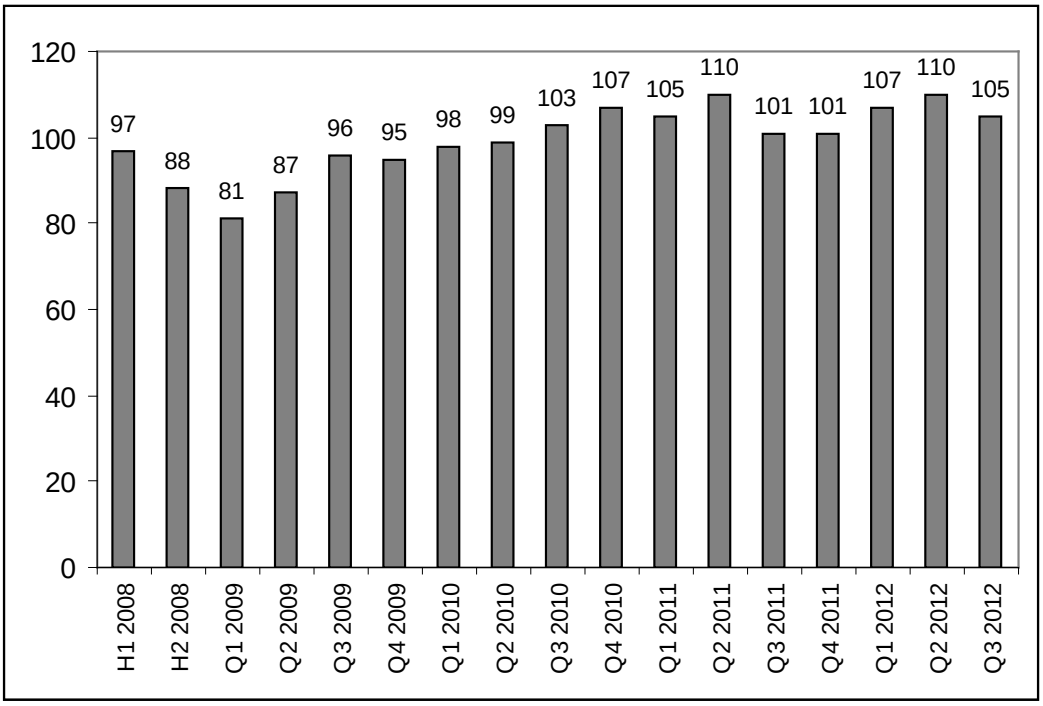
### 2.1 Retail sector in Malaysia

*The retail industry in Malaysia*

The retail industry in Malaysia continues to grow and has become one of the strong contributors to the national economy (National Statistics Department, 2011). The 10$^{th}$ Malaysian Plan which covers the period from 2011 to 2015 will see Malaysia focusing on a set of 12 potential national key economic areas (NKEAs). One of the NKEA is “wholesale and retail”. During the period from 2011 to 2015, distributive trade is expected to register an annual growth rate of 8.3%, thus contributing 15.1% to the gross domestic product (GDP) in 2015. In-line with the NKEA, this period will see the retail and wholesale sector being liberalized and consolidation among local retailers to achieve economies of scale to become more competitive (ETP Report, 2011).

The consumer confidence index improved to a 6 year high of 111 in the second quarter of 2012. The last time Malaysia Consumer Confidence reached 114 was in the second half of 2006. It started to decline after that and reached a low of 81 in first quarter 2009 (Nielsen, 2012). The confidence index dropped to 105 in the third quarter of 2012 probably owing to the unresolved euro zone debt crisis that still plagues the Mediterranean countries of Spain, Italy, Greece and Portugal. Despite the strong consumer confidence, global economic turmoil is driving Malaysians to spend wisely and save on expenses. Retail growth in the first quarter 2012 was only 6.9% which was lower than the expected growth of 12.1%. Second quarter growth is expected to continue this trend at 5.5% (The Star, Aug 2012). The global consumer confidence index on the other hand declined 3 points to 91 in quarter 2 of 2012 (Nielsen, 2012).

**Figure 2.1**
**Consumer Confidence Index: Malaysia**




*Source: Nielsen Global Online Survey, 2008- 2012.*

*Economic contribution & growth*

The Malaysia Economic Report (2011/2012) states that the wholesale and retail trade, service sub-sector, contributes the most to the economy and was expected to grow by 7.4% in 2011. In actual, retail trade achieved 8.1% growth (MRA/RGM, 2012). The services sector as a whole make up 58.9% of GDP; and is expected to grow by 6.5 per cent in 2012, better than the 6.4 per cent expansion in 2011, driven by wholesale and retail trade, finance and insurance and communications (NST, 2011). However, the wholesale and retail trade only grew by 5.7% in 2012 (BT Sep 2012).

The Malaysia Retailers Association (MRA) reported that Malaysian retailers sold RM83.2 billion worth of goods in 2011, as retail sales experienced higher 8.1 % growth. The MRA projected retail sales growth of 6% in 2012, which translates to RM88.2 billion in value. The lower growth was attributed to reduced spending amidst uncertainty in the global economy with the European debt crisis and fear of a double dip recession in the United States with the approaching fiscal cliff crisis. The Malaysian Retailer-Chains

Association (MRCA) revised its earlier projection of 4% to 5% growth. Its new 2012 revenue growth projection of its members is 5% to 6% (BT, 2012).

The wholesale and retail trade sector, which includes hotels and restaurants, employs a total of 2,424,800 people. This translates to a contribution of 19.4% of total jobs in Malaysia which is second only to the manufacturing sector which contributes 28.9% jobs.

*Retail formats in Malaysia*

The general merchandise retailers can be classified into several types: (1) department stores, (2) full-line discount stores, (3) specialty stores, (4) category specialists, (5) home improvement centre, (6) off-price retailers and (7) extreme value retailers (Levy and Weitz, 2009); additionally, (8) supercentres, (9) supermarkets, and (10) convenience store also offer general merchandise in their variety of goods though food contributes 30% to 60% of the total merchandise (Levy and Weitz, 2009). In Malaysia, the term supercentre (e.g. Giant, Tesco) and supermarket (e.g. Jusco) is used synonymously with hypermarket which can be confusing. Example of these retailers is summarized in the table below.

**Table 2.1**
**General merchandise retailers in Malaysia**

| Retailer type | Example |
|---|---|
| Department stores | Metrojaya, Parkson |
| Full line discount stores | Tesco, Carrefour, Mydin |
| Specialty stores | Guardian, Gap |
| Category specialists | Ikea, MPH Bookstore |
| Home improvement centers | ACE Hardware, Houz Depot |
| Off-price retailers | Reject Shop. F.O.S |
| Value retailers | Tesco, Carrefour, Daiso, Mydin |
| Supercentres | Tesco, Carrefour, Giant |
| Supermarket | Jusco, The Store |
| Convenience store | 7-11, 99 Speedmart |

*Source: Adapted from Levy and Weitz (2009) & Nielsen (2010)*

In the Malaysian context, the major types of retailers as described by the Nielsen market research company are listed below. Supermarkets and hypermarkets continue to lead as the formats where consumers spent the most money and leads with 44.1% combined market share in 2009. The report also states that 71% of urban consumers used hypermarkets regularly compared to only 58% in 2008.

Figures 2.2 and 2.3 shows that hypermarkets and supermarkets are retail types where consumers spent the most money and used most frequently.

**Figure 2.2**
**Shoppers Usage of Modern Store Types in Urban Malaysia 2009**

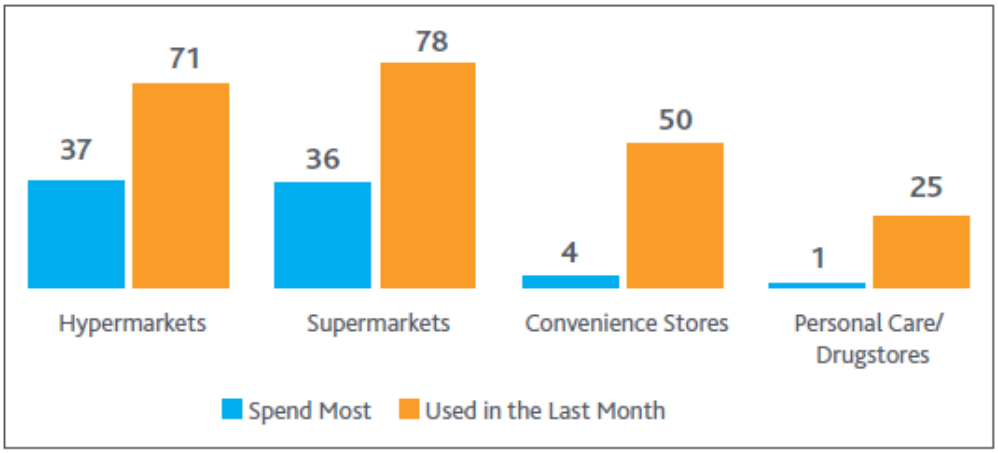
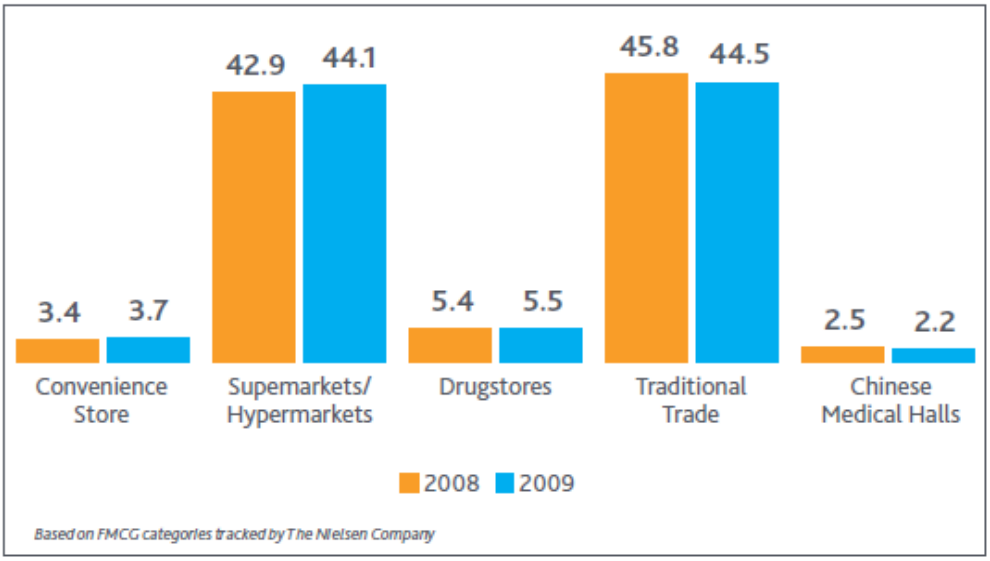



**Figure 2.3 Malaysia Share of Trade**




*Source: Nielsen Retail & Shopper Trends report 2010*

Traditional retail formats such as Chinese medical halls and traditional convenience store however declined 1.0% on average annually from 2000 to 2009 while modern formats grew 1.4% annually during the same period (Nielsen, 2010). Drugstores continue to maintain its share of trade with a marginal 0.1% growth despite the opening of 87 new drugstores in 2009. This could be attributed to the volume and sales gains contributed by the opening of 29 new hypermarket & supermarket.

**Table 2.2 & 2.3**
**Retail and Shopper Trends Asia Pacific 2010**

The latest in retailing and shopper trends for the FMCG industry (August 2010)

### 2.2 Retail Structure – Store Numbers

| TRADE SECTOR | 2008 | 2009 |
|---|---|---|
| **GROCERY STORES** | | |
| Provision Shops | 30,611 | 30,357 |
| Convenience Stores | 3,184 | 3,293 |
| Supermarket | 735 | 753 |
| Hypermarkets | 84 | 96 |
| **TOTAL GROCERY OUTLETS** | **34,614** | **34,499** |
| | | |
| **DRUG STORES** | | |
| Traditional Medical Store | 2,476 | 2,322 |
| Chain/Independent Drugstore | 1,925 | 2,012 |
| Sundry toiletry stores | 3,009 | 2,782 |
| **TOTAL DRUG OUTLETS** | **7,410** | **7,116** |

### 2.3 Modern Trade Retailers – Banner Names & Numbers

| HYPERMARKETS | 2009 | 2010 |
|---|---|---|
| Giant | 32 | 36 |
| Carrefour | 17 | 22 |
| Sunshine | 1 | 1 |
| Tesco | 21 | 24 |
| Tesco Extra | 8 | 8 |

| SUPERMARKETS | 2009 | 2010 |
|---|---|---|
| The Store | 74 | 52 |
| Billion | 32 | 30 |
| Sunshine | 5 | 3 |
| Ngiu Kee | 10 | 9 |
| Jusco | 21 | 25 |
| Giant | 63 | 65 |
| Cold Storage | 22 | 19 |

| CONVENIENCE STORES | 2009 | 2010 |
|---|---|---|
| 7-Eleven | 998 | 1016 |
| Petronas | 550 | 579 |
| Shell Select | 283 | 336 |
| Caltex Starmart | 211 | 203 |
| Mobil | 201 | 201 |
| BHP | 165 | 145 |
| Esso | 164 | 164 |

| DRUGSTORES | 2009 | 2010 |
|---|---|---|
| Guardian | 331 | 343 |
| Watsons | 208 | 209 |
| PharmaCare | 16 | 9 |
| Caring | 59 | 65 |

| MINIMARKET | 2009 | 2010 |
|---|---|---|
| 99 Speedmart | 123 | 174 |
| KK Super Mart | 56 | 62 |

*Source: Nielsen Retail & Shopper Trends report 2010*

*The Malaysian Consumer*

Malaysians have always been price conscious and frugal. The annual *Retail and Shopper Trends Report 2011* found that 86% of Malaysian shoppers were price conscious and are aware of price increases by retail outlets. As a result, 63% of them indicated that they only buy essential items or reduced consumption of luxury items due to the state of the global economic climate and local events that are cause for concern. In addition to this, 32% of shoppers would buy less to off-set price increases; this represents the highest percentage in Southeast Asia alongside Vietnam. Despite charting good consumer confidence index, the shopping behaviour could dampen growth rates for the total fast-moving consumer goods (FMCG) market. This is already seen with reduced retail visit frequencies over the last three years. With an estimated 50% of chain drugstore revenue from the FMCG category (i.e. toiletries and personal care), the reduced frequency can bring about a negative impact.

The Grey Eye on Retail Survey discovered that four out of ten Malaysians walk into a store without a clear idea what they want. Out of the remaining 60%, 40% only make their final purchase choice in the store itself (The Edge Malaysia, Dec 2010). The survey categorizes Malaysian consumer to four types: (1) 34% of consumers are “engaged info seekers” who browse and look for information to help them make a decision; (2) 32% are “passive value fans” who seek the lowest prices and are willing to wait for promotions to hunt for bargains; (3) 16% are “whim indulgers” who are less planned in their shopping and make unplanned purchases. These are also the group who enjoy shopping, equate it to adventure and enjoy window shopping while also using the activity to bond with friends and family; (4) the final 17% are “loyal listers” who undertake shopping to purchase specific items in their shopping list and avoid wasting time browsing the way whim indulgers do. (The Edge Malaysia, Dec 2010).

Malaysian consumers, according to the Grey Group, shop for value; they are willing to pay more if they see value in a product. A large portion of the consumer’s time is spent in health & beauty section in supermarkets where they make the purchase decision. Consumers shopping for health and beauty products are found to be brand loyal. However, when presented with 2 brands with similar benefits, the

brand with a better promotion or an additional tangible benefit could be chosen. It was also discovered that sales promotions promote brand loyalty but do not cause brand switching (The Edge Malaysia, Dec 2010).

As expected, Malaysians prefer direct discounts instead of bonusing (e.g. 2 for 1 promotion) or free-gifts. It is becoming evident that the consumers economize in order to reduce their overall grocery bills by buying only essential items. With grocery (i.e. FMCG and food) expenditure being a key reduction focus, shoppers across Asia Pacific are increasing the frequency with which they shop for groceries (The Edge Malaysia, Dec 2010).

With the increased shopping frequency, consumers are seeking out retail stores closer to their home or place of work; retailers are responding by increasing their store numbers across all formats, with smaller formats such as convenience store and minimarkets experiencing strong growth (The Edge Malaysia, Dec 2010; Nielsen, 2012).

The consumers perceive that they are able to get better value and lower prices for necessities during promotion. They even postpone purchases to take advantage of the promotions. Malaysian shoppers have come to to expect promotions instead of treating them as a special delight. Malaysian consumers are easily bored and promotions are a way of adding spice to the routine shopping trip. The FMCG industry need to keep things fresh to keep consumers coming back with new product release, updates and the like.

*Retail pharmacy sector in Malaysia*

There are a total of 8,632 registered pharmacists and 2,000 retail pharmacies in Malaysia. Out of the total pharmacists, 3,344 are in the private sector (Ministry of Health Malaysia, 2012) and practice in the retail sector. 44.2% of pharmacists practice in the Klang Valley.

Pharmaceutical products can be broadly categorized as prescription or over-the-counter drugs (OTC), traditional medicines, health supplements and health food. Prescription medicines comprise patented and generic drugs. Sale of prescription

medicines are regulated under the Sales of Drugs Act 1952 where only licensed doctors and pharmacists can purchase, prescribe and sell regulated medicines. Under the Pharmacist Registration Act 1951 (revised 1989), only registered pharmacists can open and operate a retail pharmacy outlet.

**Table 2.4**
**Pharmacist license issued by state**

| State | A-License Issued | Contribution |
|---|---|---|
| Perlis | 15 | 0.5% |
| Kedah | 146 | 4.9% |
| Pulau Pinang | 344 | 11.5% |
| Perak | 200 | 6.7% |
| Selangor | 907 | 30.2% |
| Kuala Lumpur | 421 | 14.0% |
| Negeri Sembilan | 82 | 2.7% |
| Melaka | 80 | 2.7% |
| Johor | 229 | 7.6% |
| Pahang | 67 | 2.2% |
| Kelantan | 89 | 3% |
| Terengganu | 9 | 0.3% |
| Labuan | 5 | 0.2% |
| Sabah | 195 | 6.5% |
| Sarawak | 211 | 7.0% |
| **Total** | 3,000 | 100% |

*Source: Pharmaceutical Services Division, 2009*

Other non-professional retail outlets are allowed to sell OTC, traditional medicines, health supplements and health food. Apart from these categories of merchandise, retail pharmacies also carry FMCG such as toiletries, personal care, wound care, medical instruments and devices, diapers and cosmetics. The assortment and variety of the merchandise varies greatly from one store to another. Generally, large chain stores have wide variety and deep assortment of merchandise compared to independent standalone stores.

The retail pharmacy market is currently dominated by Guardian Pharmacy owned by the Hong Kong Dairy Farm Group; and the Hong Kong-based Watsons Group. There is a total of 382 Guardian pharmacies in Malaysia at (The Star, 2012) and 260 Watsons Personal Care outlet (www.watsons.com.my). In addition to these two giants, there are the homegrown retail chains: Caring Pharmacy (73 outlets),

Constant Pharmacy (12 outlets), Aeon Wellness (11 outlets) and Tigas Pharma (71 stores) (Business Times Malaysia 16 Nov 2011). Tigas Pharma however is an alliance of independent pharmacies that have band together in an alliance for increased competitiveness via discounts obtainable with bulk purchases.

**Table 2.5**
**Merchandising strategy of pharmacies**

| Type of pharmacy | Example | Assortment | Variety |
|---|---|---|---|
| Chain stores | Guardian | Wide | Wide |
| Independent stores | Various | Narrow | Narrow |

*Source: Field survey*

**Table 2.6**
**Merchandising strategy of non-pharmacy retail store**

| Type of pharmacy | Example | Assortment | Variety |
|---|---|---|---|
| Hypermarkets | Tesco, Carrefour | Medium | Medium |
| Supermarkets | Jusco, Cold Storage | Medium | Medium |
| Minimarkets | 99 Speedmat | Narrow | Narrow |
| Convenience store | 7-Eleven | Narrow | Narrow |
| Convenience store (Traditional) | Various | Narrow | Narrow |
| Chinese medical hall | Various | Narrow | Medium |
| Category specialists | GNC | Wide | Narrow |

*Source: Field survey*

It has been estimated that the economic contribution of the retail pharmacies was RM847 million in 2009 (NST, 2006); and could reach RM1 billion by 2012. The private OTC market in Malaysia is estimated at RM68 million (IMS, 2010) and this sector is contributed almost exclusively by the retail healthcare outlets including Chinese medical halls, pharmacy and convenience stores. The market for traditional medicines, health supplements and health food was estimated to be about RM3 billion in 2011 (mopi.org.my). This growing segment will continue to attract investments and will evolve further especially with: (1) the growing importance of preventive healthcare, (2) an ageing population, and (3) changes in the government healthcare delivery system (1Care Health Insurance).

There is no separation of drug dispensing and prescribing function between doctors' clinics and pharmacies in Malaysia although it has been generally accepted the advantages of the exercise (Shafie et. al, 2012). This is especially worrying considering the findings of Hassali et. al (2011) that the Malaysian adult population extensively practices self-medication via community pharmacies.

## 2.2 Developments In The Retail Sector

The Economic Transformation Program (ETP) Report 2011 states that the wholesale and retail sectors is the fourth biggest contributor to the nation's Gross National Income (GNI) among all 12 National Key Economic Areas (NKEAs). The sector contributed about RM57 billion to GNI in 2009 and RM83 billion in 2010.

Increasing the Number of Large Format Stores, one of the ETP's entry point projects (EPP) may very well limit the increase of independent retail pharmacies. The NKEA 2011 Report states that large format retail sub-sector is on the increase from the current available 121 hypermarkets, 113 superstores and 133 department stores. EPP will see in the very near future the establishment of 61 hyperstores (i.e. stores 5,000 square metres and larger), 163 superstores (i.e. stores of 3,000 to 5,000 square metres) and 356 supermarkets within departmental stores (i.e. stores of 2,000 to 3,000 square metres) within the next 10 years. The implementation of this project is expected to contribute RM8.5 billion to GNI and create 68,600 jobs by 2020. (ETP Annual Report 2011). Tesco, Carrefour, Mydin and Aeon all carry health supplements and OTC medicines in their stores and would directly compete with independent retail pharmacies.

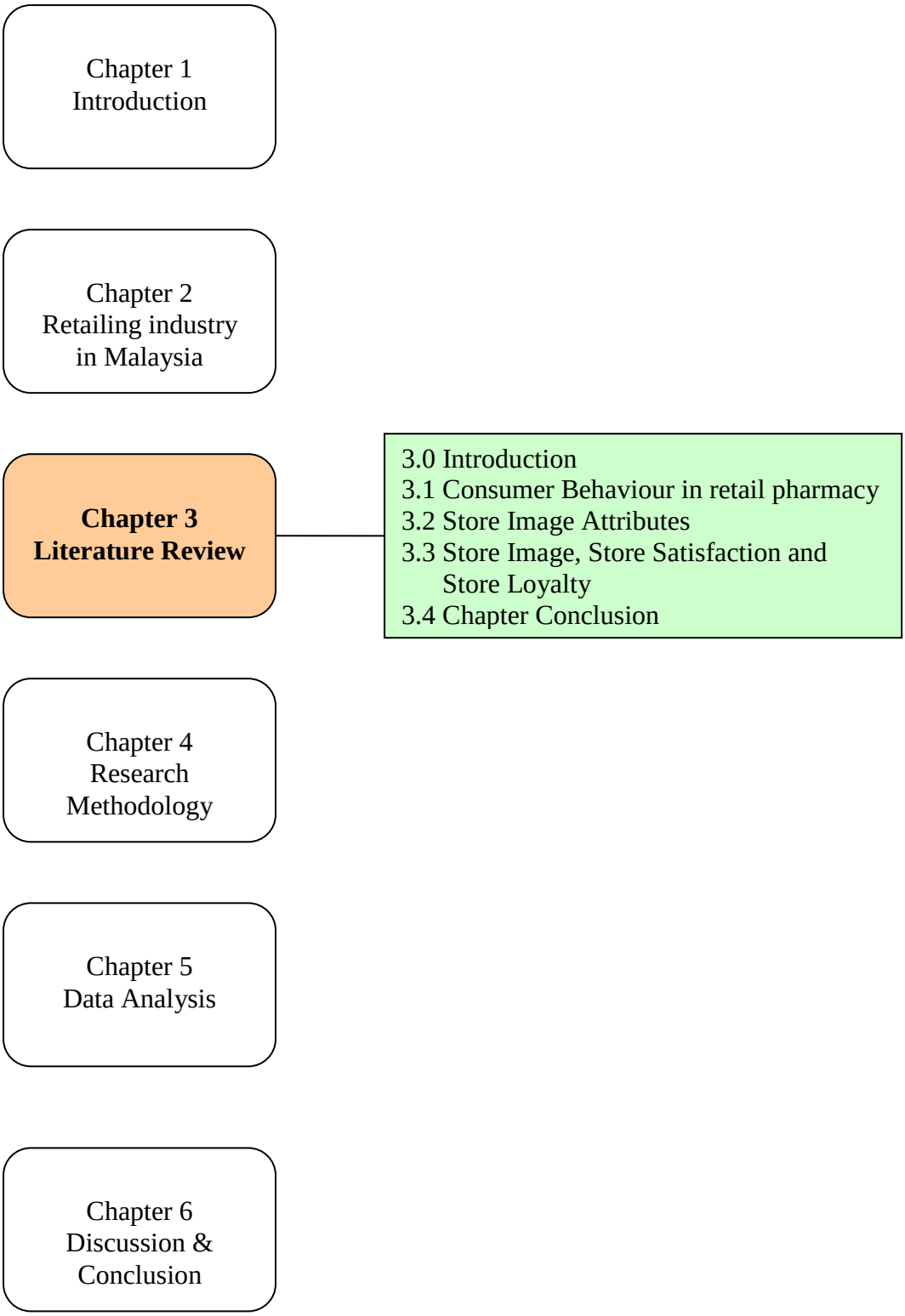
Kaliappan (2008) conducted a survey that revealed that the entry of hypermarkets in a Kuala Lumpur Malaysia affects provision shops and grocery stores by taking the market share from the existing businesses. The survey found that 58.5% of businesses benefited from the presence of hypermarkets as they experience higher sales because of the spill-over effect of the additional people attracted to the town. As retail pharmacies merchandize overlaps with the hypermarket, it could be adversely affected.

The trend of retail consolidation is expected to continue with Tesco taking over Makro stores in 2008 and Aeon buying over Carrefour in mid 2012. The consolidation will go to create strong retail brands that will continue to dominate the market and change the market dynamics.

The introduction of licensing and franchising concepts by Cosway and Constant Pharmacy is seen as a move to assist pharmacists without much business savvy. Constant Pharmacy has planned to expand its network to 500 stores within eight years (i.e. by 2017) via franchising; while eCosway Pharmacy recently launched its first store in 2012 and incorporates a pharmacy and direct selling Cosway business. With 500 eCosway Pharmacy expected in the next few years, it could very well turn into an overnight industry leader.

### 2.3 Chapter Conclusion

In chapter 2, an overview of the retail sector in Malaysia, the recent developments and changes to the sector, the retail pharmacy market was discussed. A brief insight into the Malaysian consumer behaviour and trends was presented to give context to the discussion in the following chapters.


Chapter 1
Introduction
Chapter 2
Retailing industry
in Malaysia
Chapter 3
Literature Review
3.0 Introduction
3.1 Consumer Behaviour in retail pharmacy
3.2 Store Image Attributes
3.3 Store Image, Store Satisfaction and
Store Loyalty
3.4 Chapter Conclusion
Chapter 4
Research
Methodology
Chapter 5
Data Analysis
Chapter 6
Discussion &
Conclusion

## Chapter 3: Literature Review

### 3.0 Introduction

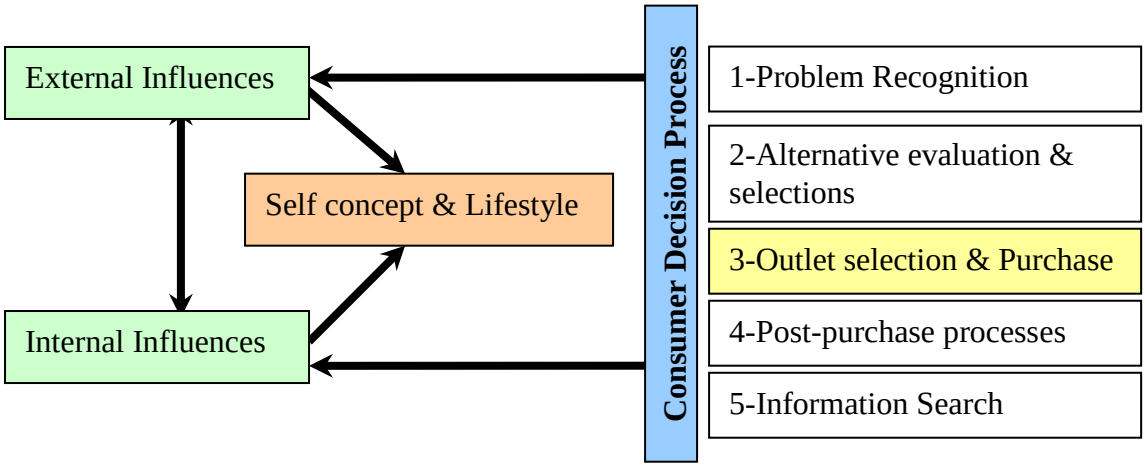
In this chapter, a comprehensive literature review of the relationship between store image attributes and its effect on consumer shopping behaviour, namely store satisfaction and store loyalty.

### 3.1 The Buying Process

Although research to understand consumer behaviour in the grocery channel is extensive, the same cannot be said of pharmacy. Often, knowledge from the groceries is extrapolated to the retail pharmacy. Studies in Malaysia looking at store image attribute on consumer behaviour are even scarcer.

It is important for retailers to understand how consumers make their patronage decisions. Five steps have been identified in the consumer decision process (Hawkins, Mothersbaugh and Best, 2010): problem recognition, information search, alternative evaluation and selection, outlet selection and purchase, and post-purchase processes. Outlet selection by consumers, an area of interest to retailers, has been a prime focus of research.

**Figure 3.1**
**Consumer Buying Process**




*Source: Adapted from Hawkins, Mothersbaugh and Best, 2010*

### 3.2 Store Image attributes

Martineau (1958) first defined store image as *"a store defined in customers' mind partly based on functional attributes and partly based on psychological attributes."* Store image includes it's characteristic attributes and makes customers perceive the store different from other stores. Arons (1961) also defined store image as that which make consumers distinguish one store from other retail stores. There are two types of attributes (Martineau, 1958):

1) Functional attributes of store image are assortment of commodities, layout, location, price-value relation and service that consumers can objectively compare with other stores.
2) Psychological attributes include attractiveness and a feeling of luxuriousness that represent the store.

**Table 3.1**
**Definition of Store Image**

| Scholars | Definition of store image |
|---|---|
| Kunkel and Berry (1968) | Store image is built up through experience & totally conceptualized or expected strengthening that urge consumers to purchase at the specified store. |
| Oxenfeldt (1974) | Store image is a complex of attributes that consumers feel about the store and it is more than a simple sum of objective individual attributes since parts of attributes interact in consumers' minds |
| Zimmer and Golden (1988) | Store image means a complex in total dimensions of store attributes that consumer feel and a complex means that store image consists of various attributes structures of purchasers, and the structures are expectation on overall policies and executions of retailers |
| Berman and Evans (1995) | Store image consists of functional and emotional attributes, these are organized in the perceptual |

*Source: Adapted from Soung and Young (2005)*

Woodside and Trappey (1992) reported that whilst shopping, a consumer is likely to refer to a limited number of evaluative attributes (i.e. hot buttons) and select the brand or store automatically associated with these hot buttons.

Arnold et. al (1978) studied the results from twelve studies to identify determinant attributes in retail store selection. He concluded that location and price appeared as determinants in food stores selection while value for money, assortment, and quality were determinant in the selection of fashion clothing stores.

Sung and Young (2005) found that although there are differences of definitions of store image according to different authors, store image is an overall attitude of a consumer towards the store and that each store has a relative location in the consumer's mind.

Moschis and Ong (2011) studied religiosity and consumer behaviour of 660 older adults aged 50 and above in Malaysia and found that there is no significant relationship between religiosity and brand preferences or store preferences across major ethnic groups. These findings indicate that previous studies reporting that consumers with higher religious convictions are more brand and store loyal.

Mokhlis et. al (2003) studied shopping behaviour of young teenage consumers and found that modern retail outlets were the choice when it came to hedonistic reasons but traditional retail outlets were chosen when the reason was to get more value for their money.

According to Che Wel et. al (2012) the Malaysian consumer is increasingly preferring hypermarkets due to the convenience it offers in completing shopping the entire list in a single store. Malaysian consumers are fast adopters of this new retail formats due to convenience, store atmosphere and everyday low pricing strategy.

With the ageing Malaysian population, Ong and Guat (2006) studied the shopping habits and retail needs of retirees aged 60 years and older. The study, one of the few focusing on the elderly, examined grocery shopping habits and retail attributes valued by retirees across different age segments, sex and ethnic groups. Attributes rated important by retirees include free parking, sufficient parking bays, favorable refund policy, one stop shopping and reasonable pricing. The least important attributes are celebrity endorsement and sales assistants who are of similar age as the retirees. Ong and Guat (2006) also found significant differences in attributes

between those who are 60 years and older and those younger; comparing between the ethnicities, the Chinese were less concerned about quality, product origin, and availability of toilet facility; elderly female consumers place importance on readable product labels, and accessibility by public transport while the elderly males placed importance on product packaging, ample parking bays, and free parking.

Franic et. al (2008) reported that only one study has addressed the determinant attributes approach although numerous publications have are available on pharmacy patronage in the past 50 years. Many of the studies mentioned by Franic et. al (2005) focused on retail pharmacy from a professional service provider perspective in delivering pharmaceutical care. This includes Schommer et. al (1997) which measured patient satisfaction with pharmaceutical services; Carroll and Jowdy (1987) looked at prescription patronage motives across the different segments; Gagnon (1977) completed a literature review on pharmacy patronage motives; Joyce et. al (1988) and Kabat (1969) studied consumer patronage for pharmaceutical services; Lipowski et. al (1987, 1991, 1993) developed a measure of retail pharmacy image from the perspective of prescription purchase; Metge et. al (1998) evaluated consumer behaviours towards perceptions pharmaceutical care delivery.

Franic et. al (2008) determined attributes important to different pharmacy formats in the United States. The study found that various retail formats such as independent retail pharmacy, chain pharmacy, grocery store pharmacy and discount store pharmacy have different determinants, and is summarized in the table below. However, the study was reflective of the American retail drugstore environment as a key driver of the importance perception was insurance reimbursement acceptance. Wait time also becomes an important attribute related to this.

Franic et. al (2008) concluded that most consumers do not perceive pharmacies as merely prescription-distribution centers that vary only by convenience and that pharmacy personnel influence pharmacy selection.

A key point put forward by Franic et. al (2008) is that in evaluating store image attributes, importance rating by respondents may not be reflective of the actual

store selection behaviour. For example, although the reason given for the selection of independent retail pharmacy was highest, the market share of chain pharmacies are double that of independent stores.

**Table 3.2**
**Determinants in different retail pharmacy types**

| Retail pharmacy format | Determinant attributes rated important by respondents |
|---|---|
| Independent retail pharmacy | All pharmacist and staff attributes, location prescription prices, pharmacy Reputation and confidentiality |
| Grocery store pharmacy | All pharmacist and staff attributes, location, familiarity, operation hours and acceptance of insurance |
| Community chain pharmacies | All the pharmacist and staff, wait time for prescriptions, operation hours, acceptance of insurance, pharmacy atmosphere, reputation & confidentiality |
| Discount store | All pharmacist and staff attributes, location, familiarity, operation hours, and acceptance of insurance, prescription prices and reputation |

*Source: Franic et. al (2008)*

Lindstrom et. al (2007) evaluated services that were more frequently requested by consumers are found that 24-hour pharmacy within 20 miles of home, 24-hour drug information service, heart disease education, influenza and pneumococcal vaccinations, cholesterol screening, diabetes education, automatic refills, diabetes screening, comprehensive medication reviews

In the process of evaluating which stores to patronize, consumers consider a variety of store image attributes including merchandizing, store atmosphere, in-store service, accessibility, store reputation, promotion, in-store facilities and post-transaction services (Kunkel and Berry, 1968; Berry, 1969; Lindquist, 1974-1975; Hansen and Deutscher, 1977; and Arnold, 1978).

In another Malaysian pharmacy study, Bahari and Yip (2010) looked at factors contributing to customer satisfaction with retail pharmacies based on a survey

conducted in 30 retail pharmacies in Kuala Lumpur. The result showed that the four most attributes affecting customer satisfaction were convenient hours, availability of over the counter drugs, variety of products, pricing and the attitude of the pharmacist and staff.

Franic (2005) showed the value of using the determinant attribute approach in pharmacy by providing patient determinant attributes of patient pharmacy selection choice, the top 5 attributes are: pharmacist competence, convenience, location, customer service, setup and insurance.

An older study in Malaysian department stores by Jantan and Kamaruddin (1999) on store image and store choice decision in Penang evaluated 7 attributes: location, merchandise, price, physical facilities, promotion and advertising, store atmosphere and service. Out of these seven, only four were rated important determinant to patronage: location, merchandise, price, and service.

Store image attributes are factors that contribute to the image formation or to developments of favourable or unfavourable consumer attitude development towards the retail store. Nine attributes were described by Lindquist (1974-1975).
Lindquist (1974-1975) reviewed 26 previous studies on store images. He further summarized major constituents of store images from 19 researchers' outputs and concluded that product, convenience, and service are the most important factors. The nine attributes are described below.

**1) Merchandise**

The five attributes considered here are quality, selection (or assortment), styling (or fashion), guarantees and pricing. Merchandise itself is taken to mean the goods and services offered by a retail outlet. (Lindquist, 1974-1975)

**2) Service**

The attribute areas are service-general, salesclerk service, presence of self service, ease of merchandise return, delivery service and credit policy of the store (Lindquist, 1974-1975).

**3) Clientele**

Social class appeal, self-image congruency and store personnel are included as attributes to this factor (Lindquist, 1974-1975).

**4) Physical Facilities**

This attribute category covers the facilities available in a store to include such things as elevators, lighting, air conditioning and washrooms. It may also be used by a customer to include store layout, aisle placement and width, carpeting and architecture. (Lindquist, 1974-1975)

**5) Convenience (Accessibility)**

Three factors have been identified that fit into this classification, namely, convenience-general, locational convenience & parking (Lindquist, 1974-1975)

**6) Promotion**

Within this summary grouping one finds sales promotions, advertising, displays, trading stamps and symbols and colors (Lindquist, 1974-1975).

**7) Store atmosphere**

This attribute category consists of what the author would dub atmosphere-congeniality. This refers to a customer's feeling of warmth, acceptance or ease.

**8) Institutional factors**

Within this grouping is the conservative-modern projection of the store and also the attributes of reputation and reliability enter the picture (Lindquist, 1974-1975).

**8) Post-transaction Satisfaction**

This classification of attributes would include such areas as merchandise in use, returns and adjustments. In a nutshell, was the consumer satisfied with his purchase and with the store? (Lindquist, 1974-1975).

**Table 3.3**
**Store Image Attributes**

| Store image attributes | Attribute Areas |
|---|---|
| Merchandise | Quality, assortment, styling, guarantees & pricing |
| Service | In-store service in general, sales clerk service, presence of self service, ease of merchandise return, delivery service & in-store credit policies |
| Clientele | Social class appeal, self image congruency & store personnel |
| Physical Facilities | In store facilities, layout, interior design, aisle design |
| Convenience | Convenience general, locational convenience (accessibility) & parking |
| Promotion | Sales promotions, advertising, displays, coupons and symbols & colors |
| Store atmosphere | Feeling of warmth, acceptance or ease |
| Institutional Factors | Conservative-modern projection of the store, store reputation & reliability |
| Post-transaction Satisfaction | Satisfaction with: merchandise in use, merchandise returns & adjustments needed for purchased merchandise |

*Source: Adapted from Lindquist, 1974-1975*

### 3.3 Store Image, store satisfaction and store loyalty

Expectedly, some studies also evaluate the relationship of store attributes, customer satisfaction and store loyalty (Blomer and Ruyter, 1998; Doreen and Benjamin, 2003; Koo, 2003; Nguyen et. al, 2006).

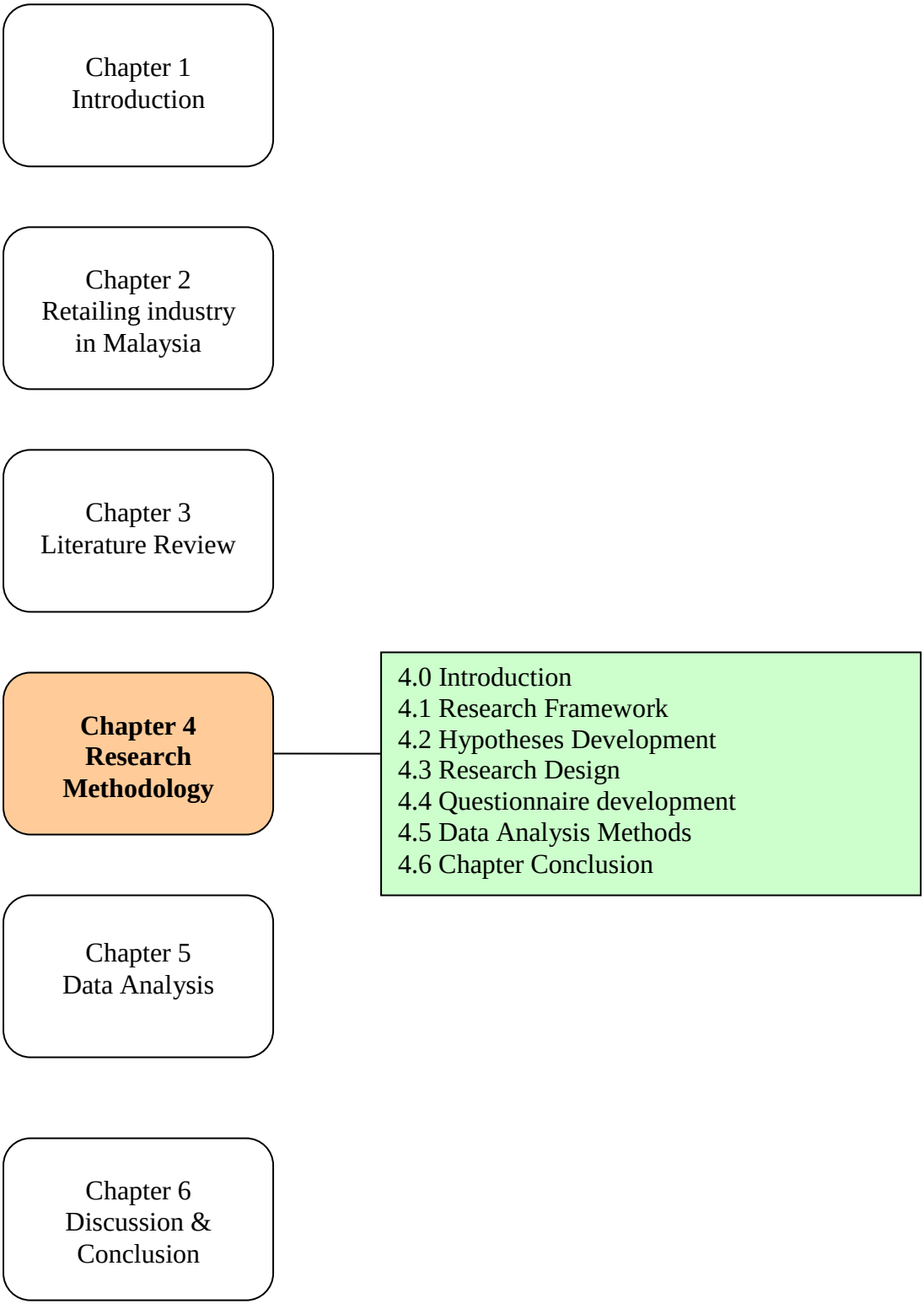
Bloemer and Ruyter (1997) determined that “satisfaction with the store is a mediator in the relationship between store image and store loyalty” and that store image has an indirect effect on store loyalty through store satisfaction. They also found that the amount of satisfaction had a positive effect on store loyalty; however, involvement and deliberation have a negative effect on store loyalty. This implies that store satisfaction transforms the implications of the image of the store and that store image can only influence store loyalty through store satisfaction.

Koo (2003) collected data on 517 discount retail store customers to establish the relationship of store attribute to customer satisfaction and how customer satisfaction affects store loyalty; and found that (1) forming the overall attitude is more closely related to in-store services, atmosphere, employee service, after sales service and merchandising (2) store satisfaction is formed through perceived store atmosphere and value (3) the overall attitude has strong influence on satisfaction and loyalty and its impact is much stronger on loyalty than on satisfaction (4) store loyalty is directly affected by most significantly location, merchandising and after sales service in that order (5) satisfaction is not related to consumers' committed store revisiting behaviour.

Grace and O'Cass (2005) discovered that the antecedents important for repatronage intentions: (1) Customer satisfaction will have a significant positive effect on repatronage intentions, (2) Store service provision will have a significant positive effect on customer satisfaction, (3) Perceived value for money will have a significant positive effect on repatronage intentions, (4) Perceived value for money will have a significant positive effect on customer satisfaction (5) Store service provision will have a significant positive effect on perceived value for money (6) Store service provision will have a significant positive effect on consumption feelings, (7) Consumption feelings will have a significant positive effect on customer satisfaction, (8) Consumption feelings will have a significant positive effect on repatronage intentions. They also determined that the antecedents are not all the same for department and discount stores.

### 3.4 Chapter Conclusion

A review of the literature shows that the relationship between store image attribute and store satisfaction as well as the relationship between store satisfaction and store loyalty has been extensively studied. However, most of the published studies were focused don grocery stores. Only a handful of studies studied antecedents of store selection in the retail pharmacy context.


Chapter 1
Introduction
Chapter 2
Retailing industry
in Malaysia
Chapter 3
Literature Review
Chapter 4
Research
Methodology
4.0 Introduction
4.1 Research Framework
4.2 Hypotheses Development
4.3 Research Design
4.4 Questionnaire development
4.5 Data Analysis Methods
4.6 Chapter Conclusion
Chapter 5
Data Analysis
Chapter 6
Discussion &
Conclusion

## Chapter 4: Methodology

### 4.0 Introduction

With the literature review completed in the last chapter, this chapter presents the conceptual framework model of the study, which shows the relationship of independent and dependent variables. Hypotheses are then developed based on the model and literature review.

### 4.1 Research Framework

The research framework was developed to investigate the relationship that store attributes play in determining pharmacy store selection by consumers in Malaysia. The model is based on attributes described by Lindquist (1974-1975). An evaluation resulting in positive store image will lead to satisfaction which is manifested by store selection (Bloemer and Ruyter, 1997). Store satisfaction in turn is a mediating variable to achieve store loyalty as proven by Bloemer and Ruyter (1997).

**Figure 4.1**
**Conceptual Model**


*Source: Adapted from Lindquist (1974-1975); Bloemer and Ruyter (1997)*

## 4.2 Hypothesis Development

This study attempts to investigate the relationship between store attributes and satisfaction that leads to store selection. The following hypotheses are formulated:

*H1: Store attributes have significant positive effect on store satisfaction*
*H2: Merchandise has a direct positive effect on store satisfaction*
*H3: Service has a direct positive effect on store satisfaction*
*H4: Clientele has a direct positive effect on store satisfaction*
*H5: In-Store facilities has a direct positive effect impact on store satisfaction*
*H6: Convenience has a direct positive effect on store satisfaction*
*H7: Promotion has a direct positive effect on store satisfaction*
*H8: Store atmosphere has a significant impact on store satisfaction*
*H9: Institutional factors has a direct positive effect on store satisfaction*
*H10: Post-transaction satisfaction has a direct positive effect on store satisfaction*
*H11: Store satisfaction has a direct positive effect on store loyalty*

## 4.3 Research Design

The study was conducted in 4 Malaysian states: Kuala Lumpur, Selangor, Perak and Penang. Locations of retail outlets selected were located both in urban and sub-urban locations (see Appendix 1). The pharmacies that were selected were either standalone or were part of a chain 5 or less stores. This was consistent with the study objective of understanding the store selection determinants by customers who patron standalone pharmacies.

**Table 4.1**
**Locations of survey**

| Pharmacy Location | Urban | Sub-urban | Respondent No. | Contribution (%) |
|---|---|---|---|---|
| | | | | |
| SELANGOR | 1 | 2 | 132 | 53 |
| KUALA LUMPUR | 1 | 1 | 52 | 21 |
| PENANG | 1 | 1 | 41 | 17 |
| PERAK | 1 | 0 | 21 | 9 |
| **TOTAL** | **4** | **4** | **246** | **100%** |

*Sample size determination*

Sample size was determined using Bartlet, Kotrlik and Higgins (2001) and Hair, (1987) and Hair, Anderson, Tatham, and Black, 1995) where the sample size obtained is at least five times as many as the items to be analysed. With 47 composite attributes or items being evaluated, the sample size required, n = 47(5) = 235 respondents. As the return of completed survey forms was expected to be 75%, a total of 320 survey forms were distributed.

*Data collection*

The survey was conducted by an off duty sales assistants. The survey was conducted outside retail pharmacies as the patrons exited the premises. Respondents were selected using convenience sampling. The decision to conduct the interviews once the potential respondents were outside was made at the request of the pharmacy store manager who did not want the distraction in the store. Additionally, the respondents were approached for the survey upon leaving the pharmacy as patronage clearly shows actual store selection rather than hypothetical situation of evaluation important attributes.

The respondents who agreed to take the survey were handed the questionnaire and instructed to complete the survey on their own without any assistance from the sales assistants. The self-administered questionnaire method was employed to prevent biases since the survey was done in 8 locations. The data was collected over a period of one week from 10$^{th}$ November to 16$^{th}$ November 2012 in all 8 locations simultaneously.

Each location was given a minimum target number of questionnaires to be completed (i.e. a minimum of 20 questionnaires). An RM5 incentive was given to the sales clerk for each completed questionnaire. An RM50 bonus was given when the minimum target number of surveys to be completed at each outlet was achieved. The respondents did not receive any compensation for completing the questionnaire.

A total of 246 respondents completed the survey giving a completion rate of 76.8% (246/320), which is 4.7% more than the minimum sample size required.

### 4.4 Survey questionnaire development

The survey questionnaire is attached in Appendix 2. The questionnaire was first pre-tested with 2 store employees and 3 consumers who patroned Constant Pharmacy Puchong to detect ambiguities in the phrases and words used. A final amended and refined version of the questionnaire was four pages long.

The questionnaire consists of five sections. Section one evaluates the shopping pattern of respondents for medicines, health related merchandise and services. It also ranks the most preferred retail format including preference for the pharmacy outlet just frequented. This is followed by the next section that measures the importance of store image attributes. The third part evaluates store satisfaction and part four evaluates loyalty as measured by repeat store selection. The final section collects respondent demographic information. The store image attributes, store satisfaction and repeated store selection items were evaluated on a five-point Likert scale, with 1 corresponding to ‘‘least important’’ and 5 the ‘‘extremely important’’. The attribute composites were based on those described by Lindquist (1974-1975).

In the section measuring store satisfaction, a five-point Likert scale, with 1 corresponding to strongly disagree and 5 strongly agree. The items in this section were adapted from Debra and Cass (2005) and Koo (2003).

In the fourth section measuring store loyalty, a five-point Likert scale, with 1 corresponding to strongly disagree and 5 strongly agree. The items in this section were adapted from Debra and Cass (2005) and Koo (2003).

### 4.5 Data Analysis Methods

The data collected from the completed from the completed questionnaire was subjected to statistical analysis using SPSS software (v.18). The data was first tabulated into an excel spreadsheet. In addition to statistical analysis, descriptive analysis of retail pharmacy shopping pattern and respondent demographics was also performed. Summarized below in Table 4 is the various types of data analysis used.

The first test performed with SPSS is the normality test in order to first determine the normally distribution of variables. This will determine the selection of either the parametric or non-parametric test for the study.

To ensure validity and reliability of variables, the Factor analysis and Cronbach‘s Alpha test were performed. This allows in determining that the variables are not correlated with one another. The Cronbach‘s Alpha test also evaluates the reliability of the scale of measurement.

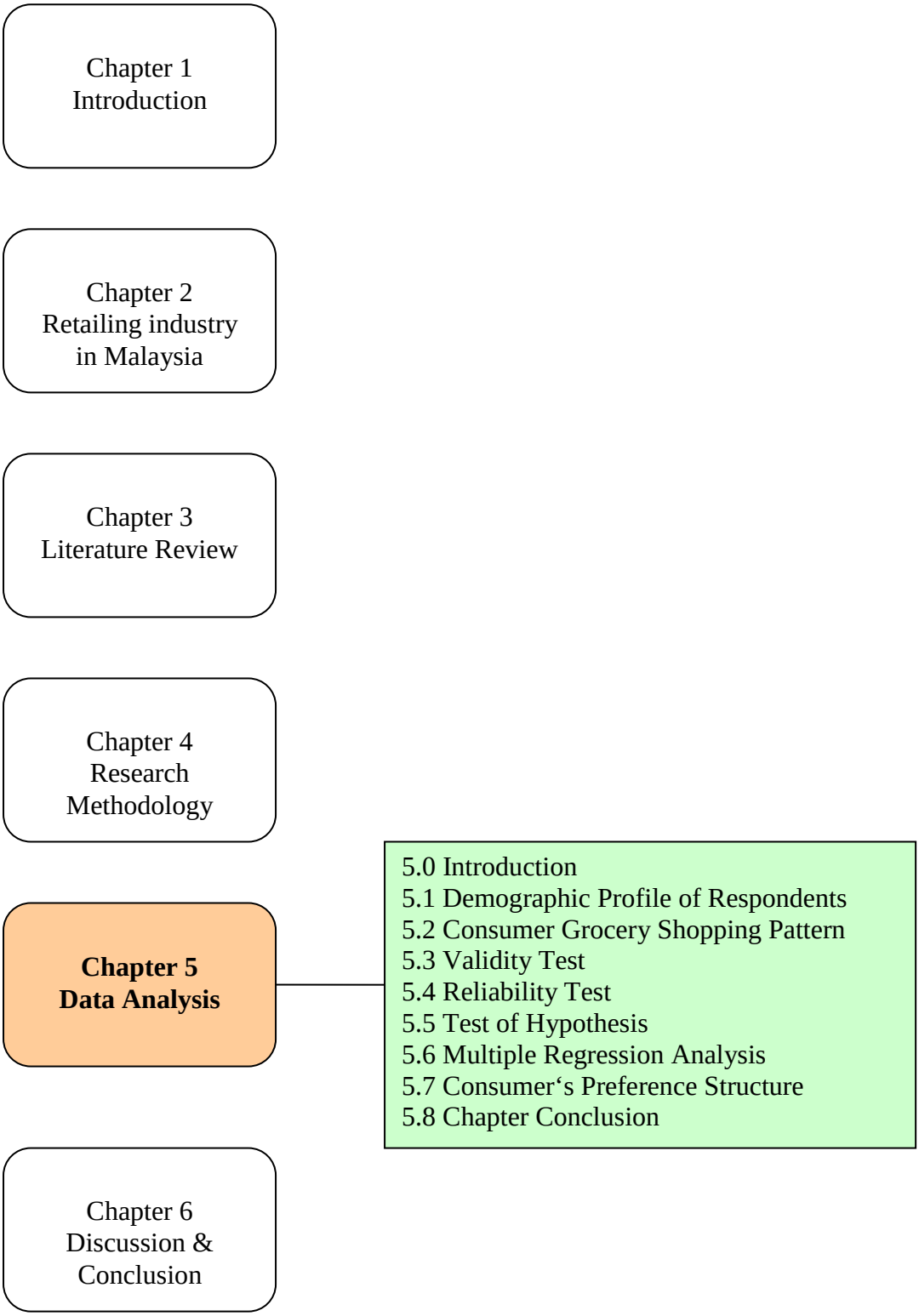
Regression analysis was performed in order to test the relationships of the dependent variables and independent variables. Pearson correlation was used to evaluate the linear relationship between two variables. Multiple linear regressions were used to explore the relationship between one dependent variable and a number of independent variables. Analysis of variance ANOVA was used to compare the mean score of store attributes among the primary shoppers of different formats.

**Table 4.2**
**Summary of Types of Analysis Used for Questionnaire**

| Type of Analysis | Type of Statistics | Section of Questionnaire |
|---|---|---|
| Descriptive Analysis | Frequency Analysis, Mean and Standard Deviation (SD) | Section 1: Pharmacy shopping pattern<br>Section 5: Respondent demographics |
| Normality Assessment | Kurtosis, Skewness Analysis & Histogram | Section 2: Store attributes<br>Section 3: Store satisfaction<br>Section 4: Store loyalty |
| Validity Test | Factor analysis | Section 2: Store attributes<br>Section 3: Store satisfaction<br>Section 4: Store loyalty |
| Reliability Test | Cronbach‘s Alpha | Section 2: Store attributes<br>Section 3: Store satisfaction<br>Section 4: Store loyalty |
| Bivariate & Multiple Analysis | Pearson‘s correlation & multiple regression | Section 2: Store attributes<br>Section 3: Store satisfaction<br>Section 4: Store loyalty |
| One-way analysis of variance | Analysis of variance (ANOVA) | Section 1: Pharmacy shopping pattern<br>Section 2: Store attributes |

## 4.6 Chapter Conclusion

In chapter 4, the research framework, hypothesis developed and study design is discussed. The data analysis method to be employed is also presented. The next chapter will see the results of the study and evaluation of the hypothesis.


Chapter 1
Introduction
Chapter 2
Retailing industry
in Malaysia
Chapter 3
Literature Review
Chapter 4
Research
Methodology
Chapter 5
Data Analysis
5.0 Introduction
5.1 Demographic Profile of Respondents
5.2 Consumer Grocery Shopping Pattern
5.3 Validity Test
5.4 Reliability Test
5.5 Test of Hypothesis
5.6 Multiple Regression Analysis
5.7 Consumer‘s Preference Structure
5.8 Chapter Conclusion
Chapter 6
Discussion &
Conclusion

## Chapter 5 Data Analysis

### 5.0 Introduction

The previous chapter has presented the conceptual model and discussed the hypotheses that are to be analyzed. The content of this chapter will cover the methods chosen to do the analysis such as how the questionnaire was developed, how the sample was selected, how the data was collected, and what are the analysis techniques that will be used on the data obtained from the questionnaire.

The results and findings of the survey can be divided into 5 main sections: (1) a description of the respondent characteristics (demographics) and (2) shopping pattern based on descriptive statistics. Also presented here are (3) the results of the validity and reliability analysis (from Factor Analysis and Cronbach's Alpha), followed by (4) hypotheses testing and finally (5) the effect of store attributes on consumer behaviour based on ANOVA.

### 5.1 Demographic Profiles of Respondents

Out of the 320 questionnaire distributed, 251 was returned to give a return rate of 78.4%. Out of the 251, 5 set of questionnaires were incomplete and rejected; the final questionnaires analyzed were 246 respondents, yielding a final response rate of 76.9%. The demographic profile of the respondents is presented in the following tables (Table 5.1a to 5.1h).

**Table 5.1.1**
**Demographic Profile of the Respondents: Gender**

| Gender | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Male | 98 | 39.8 | 39.8 |
| Female | 148 | 60.2 | 100.0 |
| Total | 246 | 100.0 | |

A total of 60.2% of the respondents were female. This corresponds to a report by Nielson (2010) where 63% of shopping in the household is done either by the wife or another female adult in the house.

The survey also found that almost half (48.4%) the respondents were of Chinese ethnicity, followed by Malay (39.8%) and lastly Indian (11.8%). This differs greatly from the composition of the Malaysian population of 67.4% Bumiputera (including an estimated 52.5% Malay), 24.6% Chinese, 7.3% Indians and 0.7% others (Department of Statistics Malaysia, 2011). This can be explained by the study adopting convenience sampling method. Feedback from the pharmacies where the sampling took place however indicates that it is more common to see Chinese patrons that other ethnicities although this has not been reliably documented. In any case, the study is not aimed at any particular ethnic group in Malaysia.

**Table 5.1.2**
**Demographic Profile of the Respondents: Ethnicity**

| Ethnicity | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Malay | 98 | 39.8 | 39.8 |
| Chinese | 119 | 48.4 | 88.2 |
| Indian | 29 | 11.8 | 100.0 |
| Total | 246 | 100.0 | |

The highest proportions of respondents were from the 31-40 years age group (38.6%). This was closely followed by the 41-50 years age group (29.7 %). The remainder of the sample came from the 51-60 years age group (15.9%), 21-30 years (9.8%), below 21 years (2.0 percent), and above 60 years (4.1 %). This goes to indicate that a more mature adult consumer patron retail pharmacies (31 to 50 years old) which contribute almost 70% of the consumer base. Baidi and Yip (2010) conducted a study in 30 retail pharmacies in Kuala Lumpur and found 37.4% of the respondents to be from the 21-30 age group and 15.3% from the 41-50 age group, 31-40 age group 30.5% while the other groups were similar to this study.

Over half the respondents (54.1%) were married while one third (30.1%) were single and the rest being divorced or widowed. This corresponds to the Malaysian population where 59.6% are married while 35.1% are single. However, the divorced or widowed group was higher at 15.9% compared to the national average of 5.3%.

**Table 5.1.3**
**Demographic Profile of the Respondents: Age Group**

| Age | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| below 21 years | 5 | 2.0 | 2.0 |
| 21 - 30 years | 24 | 9.8 | 11.8 |
| 31 - 40 years | 95 | 38.6 | 50.4 |
| 41-50 years | 73 | 29.7 | 80.1 |
| 51-60 years | 39 | 15.9 | 95.9 |
| above 60 years | 10 | 4.1 | 100.0 |
| Total | 246 | 100.0 | - |

**Table 5.1.4**
**Demographic Profile of the Respondents: Marital Status**

| Marital Status | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Single | 74 | 30.1 | 30.1 |
| Married | 133 | 54.1 | 84.1 |
| Divorced/widow | 39 | 15.9 | 100.0 |
| Total | 246 | 100.0 | |

As for the education level of the respondents, 58.5% completed secondary school education (Form 5) while 37.4% are graduates who completed a diploma or bachelor degree or graduate degree. The remainder 4.1% of the population either did not complete secondary level education or completed secondary school up to 3$^{rd}$ form or only completed primary level education.

**Table 5.1.5**
**Demographic Profile of the Respondents: Education Level**

| Highest Education | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Secondary School | 144 | 58.5 | 58.5 |
| Diploma | 23 | 9.3 | 67.9 |
| Bachelor Degree | 59 | 24.0 | 91.9 |
| Post Graduate Degree | 10 | 4.1 | 95.9 |
| Others | 10 | 4.1 | 100.0 |
| Total | 246 | 100.0 | |

58.1% of the respondents surveyed were employed at managerial level. Professionals such as accountant, architect and engineers accounted for 8.1% of the respondents. Retiree and homemakers made up 13.8% of the respondents while a further 2% of the respondents were unemployed and between jobs. Full time students made up 4.1% of the total surveyed while 13.8% were clerical staff (administrative staff, coordinators and salesperson. It was discovered that Malaysians found the term executives confusing as many entry level positions and administrative positions incorporated the word executive in the job title. As such, only Managers were available as a choice for all levels of managerial positions.

**Table 5.1.6**
**Demographic Profile of the Respondents: Employment**

| Occupation | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Professional | 20 | 8.1 | 8.1 |
| Full time student | 10 | 4.1 | 12.2 |
| Unemployed | 5 | 2.0 | 14.2 |
| Clerical staff | 34 | 13.8 | 28.0 |
| Manager* | 143 | 58.1 | 86.2 |
| Retiree/Homemaker | 34 | 13.8 | 100.0 |
| Total | 246 | 100.0 | |

* Manager includes junior/assistant managers, middle managers and senior managers/Executives

Almost two third (62.2%) of the respondents have an income in the range of RM4,001 to RM6,000. 19.5% of the respondents have a monthly income of RM6,001 to RM8,000 while 13.4% reported income of RM2,000 to RM4,000. The remaining 2.0% percent earned above RM8,000 monthly.

With population urbanization ranging from 70% (Perak) to 100% (Kuala Lumpur), the average household income in this survey was higher than national mean income RM4,025 (Department of Statistics, 2009). The states with the highest average monthly household income in Malaysia were: Putrajaya (RM6,747) followed by Selangor (RM5,962), Kuala Lumpur (RM5,488), Melaka (RM4,184) and Pulau Pinang (RM4,407) (Department of Statistics, 2009).

**Table 5.1.7**
**Demographic Profile of the Respondents: Household Income Level**

| Monthly Income | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Below RM 2,000 | 7 | 2.8 | 2.8 |
| RM 2,000- RM 4,000 | 33 | 13.4 | 16.3 |
| RM 4,001 - RM 6,000 | 153 | 62.2 | 78.5 |
| RM 6,001 - RM 8,000 | 48 | 19.5 | 98.0 |
| Above RM 8,000 | 5 | 2.0 | 100.0 |
| Total | 246 | 100.0 | |

Analysis on the household size found that 43.9% of the respondents were from a household of 3 to 4 people followed by five to six members (30.1%) followed by those with 1 to 2 family members at 16.3% and 7 and above members at 9.8%. This was consistent with the Malaysian average of 4.31 member household (Department of statistics, Malaysia, 2011).

**Table 5.1.8**
**Demographic Profile of the Respondents: Size of Household**

| Size of Household | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| 1-2 | 40 | 16.3 | 16.3 |
| 3-4 | 108 | 43.9 | 60.2 |
| 5-6 | 74 | 30.1 | 90.2 |
| 7 and above | 24 | 9.8 | 100.0 |
| Total | 246 | 100.0 | |

## 5.2 Consumer Shopping Pattern

The survey also examined the shopping pattern of respondents by looking at the frequency of patronage, the amount of time spent in a retail pharmacy at each visit, monthly expenditure at retail pharmacy and preference of different retail types for health related merchandise. The survey found that almost all respondents (95.9 percent) shopped 1 to 2 times a month at retail pharmacies. The remainder visit 3 to 4 times or never. This finding shows that pharmacy patronage could be closely related to monthly supply replenishing off health related goods or getting their prescription filled for chronic medication.

**Table 5.2.1**
**Monthly frequency of purchase at retail pharmacies**

| Frequency of purchase at retail pharmacy | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Never | 5 | 2.0 | 2.0 |
| 1-2 times | 236 | 95.9 | 98.0 |
| 3-4 times | 5 | 2.0 | 100.0 |
| Total | 246 | 100.0 | |

Almost half of the respondents (43.9 percent) spent below 30 minutes in a retail pharmacy while another 44.3% spent 30 to 60 minutes during each store visit. The remainder 11.8% reported spending 60 to 90 minutes per visit.

**Table 5.2.2**
**Time spent in retail pharmacy**

| **Time spent in pharmacy** | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| below 30 min | 108 | 43.9 | 43.9 |
| 30 - 60 min | 109 | 44.3 | 88.2 |
| 60 - 90 min | 29 | 11.8 | 100.0 |
| Total | 246 | 100.0 | |

The monthly expenditure of the respondents show that 54.1% spend less than RM100 while another 30.1% spend 100 to RM200 at retail pharmacy monthly. The remainder 13.8 percent of the respondents reported spending RM201 to RM300 monthly. The final 2% spend RM301 to RM400 per month.

**Table 5.2.3**
**Monthly expenditure for medicines/health related products/services at pharmacy**

| Monthly expenditure at pharmacy | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| less than RM 100 | 133 | 54.1 | 54.1 |
| RM 100 - RM200 | 74 | 30.1 | 84.1 |
| RM 201 - RM 300 | 34 | 13.8 | 98.0 |
| RM 301 - RM 400 | 5 | 2.0 | 100.0 |
| Total | 246 | 100.0 | |

**Table 5.2.4**
**Mode of transportation to the retail pharmacy**

| How do you usually go to the retail pharmacy? | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Walk | 89 | 36.2 | 36.2 |
| Motorcycle | 63 | 25.6 | 61.8 |
| Public Transportation | 5 | 2.0 | 63.8 |
| Car | 89 | 36.2 | 100.0 |
| Total | 246 | 100.0 | |

Analyzing the mode of transportation getting to the retail pharmacies, the survey found that 36.2% of the respondents walk to the retail pharmacy due to its location within the residential area while another 61.8% either drive a car to the pharmacy (36.2%) or ride a motorcycle (25.6%); a final 2% report using public transportation.

Analysis of the frequency of shopping at different retail types for health related products found that 95.9% of respondents indicated that they visited retail pharmacy the most (“Always” or “Often” or “Occasionally”). This is closely followed by traditional grocery store (e.g. Chinese Medical Store or other mom and pop store) at 58.9%. Hypermarket (48.4%) and Convenience store (45.1%) follow behind traditional grocery store while supermarkets rank the last being picked.19.5% of the time. It has to be clarified here that Chinese medical stores are at the top of mind when it comes to shopping at traditional grocery store for medical and health products as discovered in the questionnaire testing phase. Store type specific frequency is listed in table 5.3b.

The results of this finding show that pharmacy is still the preferred retail type for health related products. However, hypermarket could pose a threat in the future for traditional grocery store as suggested by Morgonasky (1997), and Seiders and Tigert (2000).

Retail type preference of the respondents surveyed found that 85.8% ranked the pharmacy where they were sampled as “rank 1 or 2” while 90.2% ranked other retail pharmacy either 1 or 2. Hypermarket leads in the category “ranked 3 or 4” with 72.0% followed by traditional grocery store (53.7%) and supermarket (48.4%).

Convenience store was ranked 5 or 6 by most respondents (93.9%). Store type specific preference is listed in table 5.4b in the next page.

**Table 5.3.1**
**Frequency of shopping at the different retail formats**

| Frequency | Hyper-market | Super-market | This Pharmacy | Convenience Store | Other Pharmacy | Traditional Grocery Store |
|---|---|---|---|---|---|---|
| **Ranked 1 or 2** | 30 (12.2%) | 13 (5.3%) | 211 (85.8%) | 0 | 222 (90.2%) | 15 (6.1%) |
| **Ranked 3 or 4** | 177 (72.0%) | 119 (48.4%) | 35 (14.2%) | 15 (6.1%) | 19 (7.7%) | 132 (53.7%) |
| **Ranked 5 or 6** | 39 (15.9%) | 114 (46.3%) | 0 | 231 (93.9%) | 5 (2.0%) | 99 (40.2%) |
| **Total** | 246 (100%) | 246 (100%) | 246 (100%) | 246 (100%) | 246 (100%) | 246 (100%) |

**Table 5.3.2**
**Retail formats preference ranking**

| Frequency | Hyper-market | Super-market | Pharmacy | Convenience Store | Traditional Grocery Store |
|---|---|---|---|---|---|
| **Always/ Often/ Occasionally** | 119 (48.4%) | 48 (19.5%) | 236 (95.9%) | 111 (45.1%) | 145 (58.9%) |
| **Rarely** | 122 (49.6%) | 198 (80.5%) | 10 (4.1%) | 105 (42.7%) | 68 (27.7%) |
| **Never** | 5 (2.0%) | 0 | 0 | 30 (12.2%) | 33 (13.4%) |
| **Total** | 246 (100%) | 246 (100%) | 246 (100%) | 246 (100%) | 246 (100%) |

**Table 5.3.3**
**Frequency of shopping at the different retail formats**

| Retail Type | Frequency to | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| **Hypermarket** | Often | 5 | 2.0 | 2.0 |
| | Occasionally | 114 | 46.3 | 48.4 |
| | Rarely | 122 | 49.6 | 98.0 |
| | Never | 5 | 2.0 | 100.0 |
| | Total | 246 | 100.0 | |
| **Super-market** | Occasionally | 48 | 19.5 | 19.5 |
| | Rarely | 198 | 80.5 | 100.0 |
| | Total | 246 | 100.0 | |
| **Retail Pharmacy** | Always | 10 | 4.1 | 4.1 |
| | Often | 176 | 71.5 | 75.6 |
| | Occasionally | 50 | 20.3 | 95.9 |
| | Rarely | 10 | 4.1 | 100.0 |
| | Total | 246 | 100.0 | |

| Retail Type | Frequency to | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Convenience Store | Occasionally | 111 | 45.1 | 45.1 |
| | Rarely | 105 | 42.7 | 87.8 |
| | Never | 30 | 12.2 | 100.0 |
| | Total | 246 | 100.0 | |
| Traditional Grocery Store | Often | 20 | 8.1 | 8.1 |
| | Occasionally | 125 | 50.8 | 58.9 |
| | Rarely | 68 | 27.6 | 86.6 |
| | Never | 33 | 13.4 | 100.0 |
| | Total | 246 | 100.0 | |

**Table 5.4.1**
**Retail Format preference ranking**

| | Rank | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Preference for hypermarket | 1 | 25 | 10.2 | 10.2 |
| | 2 | 5 | 2.0 | 12.2 |
| | 3 | 84 | 34.1 | 46.3 |
| | 4 | 93 | 37.8 | 84.1 |
| | 5 | 30 | 12.2 | 96.3 |
| | 6 | 9 | 3.7 | 100.0 |
| | Total | 246 | 100.0 | |
| Preference for supermarket | 1 | 5 | 2.0 | 2.0 |
| | 2 | 8 | 3.3 | 5.3 |
| | 3 | 45 | 18.3 | 23.6 |
| | 4 | 74 | 30.1 | 53.7 |
| | 5 | 80 | 32.5 | 86.2 |
| | 6 | 34 | 13.8 | 100.0 |
| | Total | 246 | 100.0 | |
| Preference for this retail pharmacy | 1 | 122 | 49.6 | 49.6 |
| | 2 | 89 | 36.2 | 85.8 |
| | 3 | 35 | 14.2 | 100.0 |
| | Total | 246 | 100.0 | |
| Preference for other retail pharmacy | 1 | 99 | 40.2 | 40.2 |
| | 2 | 123 | 50.0 | 90.2 |
| | 3 | 19 | 7.7 | 98.0 |
| | 5 | 5 | 2.0 | 100.0 |
| | Total | 246 | 100.0 | |

| | | | | |
|---|---|---|---|---|
| Preference for traditional grocery store | 1 | 5 | 2.0 | 2.0 |
| | 2 | 10 | 4.1 | 6.1 |
| | 3 | 68 | 27.6 | 33.7 |
| | 4 | 64 | 26.0 | 59.8 |
| | 5 | 64 | 26.0 | 85.8 |
| | 6 | 35 | 14.2 | 100.0 |
| | Total | 246 | 100.0 | |
| Preference for convenience store | 3 | 5 | 2.0 | 2.0 |
| | 4 | 10 | 4.1 | 6.1 |
| | 5 | 63 | 25.6 | 31.7 |
| | 6 | 168 | 68.3 | 100.0 |
| | Total | 246 | 100.0 | |

*Differences between male and female respondents*

An independent-samples t-test was conducted to compare store image attribute for males and females. There was statistically significant difference in scores for males (M=64.6531, SD=3.64989) and females [M=65.5203, SD=2.61464; t(-.86721)= -2.032, p=..044]. The magnitude of the differences in the means was very small (eta squared=.002) (Cohen, 1988).

An independent-samples t-test to compare store satisfaction for males and females found no significant difference in scores for males (M=17.3061, SD=2.74860) and females [M=17.5068, SD=3.06283; t(-.20063)= -.524, p=..601]. The magnitude of the differences in the means was very small (eta squared=.001)

**Table 5.5.1**
**Store Image & Satisfaction score mean by gender**

| | Gender | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Image | Male | 98 | 64.6531 | 3.64989 | .36869 |
| | Female | 148 | 65.5203 | 2.61464 | .21492 |
| Satisfaction | Male | 98 | 17.3061 | 2.74860 | .27765 |
| | Female | 148 | 17.5068 | 3.06283 | .25176 |

**Table 5.5.2**
**Store Image & Satisfaction score mean by gender**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Diff. | Std. Error Difference | Lower | Upper |
| **Image** | Equal variances assumed | 10.313 | .001 | -2.170 | 244 | .031 | -.86721 | .39960 | -1.65431 | -.08011 |
| | Equal variances not assumed | | | -2.032 | 161.795 | .044 | -.86721 | .42676 | -1.70995 | -.02446 |
| **Satisfaction** | Equal variances assumed | 3.388 | .067 | -.524 | 244 | .601 | -.20063 | .38314 | -.95532 | .55405 |
| | Equal variances not assumed | | | -.535 | 222.728 | .593 | -.20063 | .37480 | -.93924 | .53797 |

Independent-samples t-test to compare store atmosphere and institutional factors also saw statistical differences between men and women. There was significant difference in store atmosphere scores for males (M=6.7041, SD=1.36381) and females [M=6.2838, SD=1.08822; t(.42030)= 2.559, p=.011]. The magnitude of the differences in the means was very small (eta squared=.03). Institutional factor scores for males (M=5.6837, SD=1.24019) and females [M=6.3784, SD=.95051; t(-.69470)= -4.962, p=.0005]. The magnitude of the differences in the means was very small (eta squared=.09).

**Table 5.5.3**
**Store atmosphere & Institutional factors score mean by gender**

| | Gender | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Store Atmosphere | Male | 98 | 6.7041 | 1.36381 | .13777 |
| | Female | 148 | 6.2838 | 1.08822 | .08945 |
| Institutional Factors | Male | 98 | 5.6837 | 1.24019 | .12528 |
| | Female | 148 | 6.3784 | .95051 | .07813 |

**Table 5.5.4**
**Store atmosphere & Institutional factors score mean by gender**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| Store Atm | Equal variances assumed | 5.212 | .023 | 2.677 | 244 | .008 | .42030 | .15698 | .11109 | .72950 |
| | Equal variances not assumed | | | 2.559 | 175.451 | .011 | .42030 | .16426 | .09612 | .74448 |
| Inst Factors | Equal variances assumed | 1.842 | .176 | -4.962 | 244 | .000 | -.69470 | .14001 | -.97049 | -.41892 |
| | Equal variances not assumed | | | -4.705 | 170.147 | .000 | -.69470 | .14765 | -.98616 | -.40325 |

*Differences between respondents' ethnicity*

A one-way between-groups analysis of variance was conducted to explore the impact of ethnicity on store satisfaction. Subjects were divided into three groups according to their race (Malay, Chinese and Indian). There was a statistically significant difference at the p<.05 level in satisfaction scores for the three race groups [F(2, 243)=4.312, p=.014]. The effect size, calculated using eta squared, was 0.03. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Malay (M=18.0816, SD=2.83088) was significantly different from Chinese (M=17.0588, SD=3.05402). Indian respondents (M=16.7241, SD=2.41863) did not differ significantly from either Malay or Chinese.

**Table 5.6.1**
**Store satisfaction score mean by ethnicity**

| Ethnicity | N | Mean | SD | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | |
| Malay | 98 | 18.0816 | 2.83088 | .28596 | 17.5141 | 18.6492 | 15.00 | 25.00 |
| Chinese | 119 | 17.0588 | 3.05402 | .27996 | 16.5044 | 17.6132 | 13.00 | 24.00 |
| Indian | 29 | 16.7241 | 2.41863 | .44913 | 15.8041 | 17.6441 | 15.00 | 20.00 |
| Total | 246 | 17.4268 | 2.93757 | .18729 | 17.0579 | 17.7957 | 13.00 | 25.00 |

**Table 5.6.2**
**Store satisfaction ANOVA by ethnicity**

| Satisfaction | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 72.455 | 2 | 36.227 | 4.312 | .014 |
| Within Groups | 2041.728 | 243 | 8.402 | | |
| Total | 2114.183 | 245 | | | |

**Table 5.6.3**
**Post-hoc comparison of store satisfaction (Tukey Test)**

| Ethnic | Ethnic | Mean Difference | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| Malay | Chinese | 1.02281* | .39540 | .028 | .0904 | 1.9552 |
| | Indian | 1.35749 | .61275 | .071 | -.0875 | 2.8025 |
| Chinese | Malay | -1.02281* | .39540 | .028 | -1.9552 | -.0904 |
| | Indian | .33469 | .60028 | .843 | -1.0809 | 1.7502 |
| Indian | Malay | -1.35749 | .61275 | .071 | -2.8025 | .0875 |
| | Chinese | -.33469 | .60028 | .843 | -1.7502 | 1.0809 |

*. The mean difference is significant at the 0.05 level.

*Differences between respondents' marital status*

A one-way between-groups analysis of variance was conducted to explore the impact of marital status on total satisfaction. There was a statistically significant difference at the p<.05 level in satisfaction scores for the three age groups [F(2, 243)=5.531, p=.004]. The effect size, calculated using eta squared, was .004.

**Table 5.7.1**
**Store satisfaction score mean by marital status**

| Marital Status | N | Mean | SD | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | |
| Single | 74 | 16.7027 | 2.71843 | .31601 | 16.0729 | 17.3325 | 15.00 | 24.00 |
| Married | 133 | 17.4887 | 2.97111 | .25763 | 16.9791 | 17.9983 | 13.00 | 25.00 |
| Divorced/ widow | 39 | 18.5897 | 2.89026 | .46281 | 17.6528 | 19.5267 | 15.00 | 23.00 |
| Total | 246 | 17.4268 | 2.93757 | .18729 | 17.0579 | 17.7957 | 13.00 | 25.00 |

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Single (M=16.7027, SD=2.71843) was significantly different from Divorced (M=18.5897, SD=2.89026). Married group (M=17.4887, SD=2.97111) did not differ significantly from the other 2 groups.

**Table 5.7.2**
**Store satisfaction ANOVA by marital status**

| Satisfaction | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 92.054 | 2 | 46.027 | 5.531 | .004 |
| Within Groups | 2022.128 | 243 | 8.322 | | |
| Total | 2114.183 | 245 | | | |

**Table 5.7.3**
**Post-hoc comparison of store satisfaction (Tukey Test)**

| Marrital | Marrital | Mean Difference | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| Single | Married | -.78602 | .41835 | .147 | -1.7726 | .2005 |
| | Divorced/widow | -1.88704* | .57081 | .003 | -3.2331 | -.5410 |
| Married | Single | .78602 | .41835 | .147 | -.2005 | 1.7726 |
| | Divorced/widow | -1.10102 | .52530 | .093 | -2.3398 | .1377 |
| Divorced/ widow | Single | 1.88704* | .57081 | .003 | .5410 | 3.2331 |
| | Married | 1.10102 | .52530 | .093 | -.1377 | 2.3398 |

*. The mean difference is significant at the 0.05 level.

## 5.3 Validity Test

Factor analysis is useful in reducing a large number of related variables to a smaller and more manageable number of dimensions or components; this is done by determining if one group is significantly different from another (Pallant, 2005). If two variables don't share a common variance factor with other variables, their partial correlation will be large (nearing 1.0) meaning the variables are not measuring a common factor and the Kaiser-Meyer-Olkin (KMO) index nearing 0.00.

### 5.3.1 Independent Variables (Store Image Attributes)

An initial factor analysis yielded a KMO index of 0.147 for 38 independent variables (store image attributes) (Table 5.8.1).

**Table 5.8.1**
**KMO and Bartlett's Test**

| | | |
|---|---|---|
| **Kaiser-Meyer-Olkin Measure of Sampling Adequacy** | | 0.147 |
| **Bartlett's Test of Sphericity** | Approx. Chi-Square | 5670.006 |
| | df | 703 |
| | Sig. | 0.000 |

Kaiser (1974) recommended a bare minimum KMO of 0.5 and that values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb. Kaiser (1974) also suggested that for low KMO, the indicator variables with the lowest individual statistical value should be dropped until the KMO overall rises.

Therefore the independent variables with the lowest individual KMO statistic value were eliminated until KMO rose to above 0.5, and in this study 0.504 (see Table 5.8.2), for the consistency, reliability, and validity of the survey tool; and Bartlett's Test of Sphericity was significant ($p<0.0005$) supporting the factorability of the correlation matrix. After factor analysis, 21 out of 38 independent variables items were retained were subjected to principal components analysis (PCA) using SPSS v18 (see Table 5.8.3).

**Table 5.8.2**
**KMO and Bartlett's Test**

| | | |
|---|---|---|
| **Kaiser-Meyer-Olkin Measure of Sampling Adequacy** | | 0.504 |
| **Bartlett's Test of Sphericity** | Approx. Chi-Square | 1390.822 |
| | df | 210 |
| | Sig. | .000 |

**Table 5.8.3**
**Independent Variables retained for PCA**

| Store Image Attributes | Items |
|---|---|
| **Merchandise** | The availability of well-known brands<br>The store offers quality merchandise<br>The store offers guarantees on the merchandise sold<br>The store offers competitive prices<br>The store offers everyday low price |
| **Services** | The in-store service is generally good<br>Sales transactions and records are error free<br>The sales clerk/employees are courteous, helpful & friendly<br>The store accept major credit/debit cards |
| **Institutional Factors** | The store projects a suitable persona that I like (modern/conservative) |
| **Clientele** | Shopping at this store is appeals to my social standing & class level<br>The store personnel behavior suits the store patrons |
| **Physical Store Facilities** | The store layout makes it was to find things and move around<br>The store interior design, decorations, building & fixtures are sufficient<br>The in-store facilities are sufficient (e.g. washroom, chair) |
| **Post-transaction Satisfaction** | I am satisfied with the products purchased here that I'm currently using<br>I am satisfied with the merchandise returns experience in this store |
| **Promotion** | The store has loyalty program (Member Card) or discount coupons<br>The store organizes special promotional campaigns or events |
| **Convenience** | The store is located near your work place or home<br>The store is easily accessible to you |

Principal components analysis revealed the presence of nine components with eigenvalues exceeding 1, explaining 71.262% of the cumulative variance (Table 5.8.4). An inspection of the screeplot revealed a clear break after the fifth component and using Catell's scree test (Catell, 1966), it was decided to retain six components for further investigation.

To aid in the interpretation of these 6 components, Varimax rotation was performed. The rotated solution revealed the presence of simple structure (Thurstone, 1947), with the 6 components showing a number of strong loadings and all variables loading substantially on only one component (see Table 5.8.5). The six component solution explained a total of 56.662% of the cumulative variance (see Table 5.8.4).

**Table 5.8.4**
**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.757 | 13.127 | 13.127 | 2.757 | 13.127 | 13.127 |
| 2 | 2.264 | 10.781 | 23.909 | 2.264 | 10.781 | 23.909 |
| 3 | 2.169 | 10.330 | 34.239 | 2.169 | 10.330 | 34.239 |
| 4 | 1.817 | 8.651 | 42.890 | 1.817 | 8.651 | 42.890 |
| 5 | 1.392 | 6.627 | 49.517 | 1.392 | 6.627 | 49.517 |
| 6 | 1.290 | 6.145 | 55.662 | 1.290 | 6.145 | 55.662 |
| 7 | 1.209 | 5.758 | 61.420 | 1.209 | 5.758 | 61.420 |
| 8 | 1.050 | 4.998 | 66.418 | 1.050 | 4.998 | 66.418 |
| 9 | 1.017 | 4.844 | 71.262 | 1.017 | 4.844 | 71.262 |
| 10 | .935 | 4.452 | 75.714 | | | |
| 11 | .878 | 4.182 | 79.896 | | | |
| 12 | .684 | 3.255 | 83.151 | | | |
| 13 | .669 | 3.184 | 86.335 | | | |
| 14 | .579 | 2.755 | 89.090 | | | |
| 15 | .547 | 2.603 | 91.693 | | | |
| 16 | .406 | 1.933 | 93.627 | | | |
| 17 | .364 | 1.734 | 95.361 | | | |
| 18 | .348 | 1.657 | 97.018 | | | |
| 19 | .269 | 1.281 | 98.299 | | | |
| 20 | .219 | 1.041 | 99.340 | | | |
| 21 | .139 | .660 | 100.000 | | | |

Extraction Method: Principal Component Analysis.

**Table 5.8.5**
**Rotated Component Matrix[a]**

| Items | Component | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| The store is located near your work place or home | .854 | | | | | |
| The store is easily accessible to you | .803 | | | | | |
| The in-store service is generally good | -.558 | | | | | |
| The store interior design, decorations, building and fixtures are sufficient | | .650 | | | | |
| I am satisfied with the products purchased here that I am currently using | | -.628 | | | | |
| The store projects a suitable persona that I like (e.g. modern or classic/conservative) | | .614 | | | | |
| The store personnel behavior suits the store patrons | | .542 | | | | |
| The store accept major credit/debit cards | | -.451 | | | | |
| The store offers quality merchandise | | | .695 | | | |
| The sales clerk/employees are courteous, helpful & friendly | | | .594 | | | |
| The store has loyalty program (Member Card) or discount coupons | | | -.543 | | | |
| The in-store facilities are sufficient (e.g. washroom, chair) | | | -.523 | | | |
| The store organizes special promotional campaigns or events | | | | .803 | | |
| The store offers guarantees on the merchandise sold | | | | .659 | | |
| The store layout makes it was to find things and move around | | | | | .658 | |
| Sales transactions & records are error free | | | | | -.641 | |
| The availability of well-known brands | | | | | -.505 | |
| I am satisfied with the merchandise returns experience in this store | | | | | | -.650 |
| The store offers competitive prices | | | . | | | .532 |
| Shopping at this store is appeals to my social standing & class level | | | | | | -.528 |
| The store offers everyday low price | | | | | | .454 |

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 15 iterations.

### 5.3.2 Intermediate Variables (Store Satisfaction)

As for store satisfaction, the KMO value obtained was 0.812 after the lowest individual statistical value was dropped. This KMO was deemed to be very good based on Kaiser (1974); Bartlett's Test of Sphericity was statistically significant ($p<0.0005$).

**Table 5.8.6**
**KMO and Bartlett's Test**

| | | |
|---|---|---|
| **Kaiser-Meyer-Olkin Measure of Sampling Adequacy** | | .812 |
| **Bartlett's Test of Sphericity** | Approx. Chi-Square | 1210.123 |
| | df | 6 |
| | Sig. | .000 |

Principal components analysis revealed the presence of 1 component with eigenvalue exceeding 1, explaining 85.923% of the variance (Table 5.8.7). An inspection of the screeplot revealed a clear break after the second component.

**Table 5.8.7**
**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 3.437 | 85.923 | 85.923 | 3.437 | 85.923 | 85.923 |
| 2 | .387 | 9.671 | 95.593 | | | |
| 3 | .139 | 3.482 | 99.075 | | | |
| 4 | .037 | .925 | 100.000 | | | |

Extraction Method: Principal Component Analysis.

It was decided to retain all four components (Table 5.8.8) for further investigation as Varimax rotation cannot be performed with only one component extracted.

**Table 5.8.8**
**Independent Variables retained for PCA**

| Variable | Items |
|---|---|
| Store Satisfaction | The store did a good job in satisfying my needs |
| | Using this store is a very satisfying experience |
| | I am satisfied with my decision to shop at this store |
| | I made the right decision when I decided to shop at this store |

### 5.3.3 Dependent Variables (Store Loyalty)

The dependent variable of store loyalty saw a KMO value was 0.649 and Bartlett's Test of Sphericity was significant ($p<0.0005$). This KMO was deemed to be acceptable based on Kaiser (1974).

**Table 5.8.9**
**KMO and Bartlett's Test**

| | | |
|---|---|---|
| **Kaiser-Meyer-Olkin Measure of Sampling Adequacy** | | .649 |
| **Bartlett's Test of Sphericity** | Approx. Chi-Square | 666.196 |
| | df | 6 |
| | Sig. | .000 |

Principal components analysis revealed the presence of 1 component with eigenvalue exceeding 1, explaining 65.772% of the variance (Table 5.8.9). An inspection of the screeplot revealed a clear break after the second component.

**Table 5.8.10**
**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.631 | 65.772 | 65.772 | 2.631 | 65.772 | 65.772 |
| 2 | .844 | 21.101 | 86.873 | | | |
| 3 | .462 | 11.560 | 98.433 | | | |
| 4 | .063 | 1.567 | 100.000 | | | |

Extraction Method: Principal Component Analysis.

It was decided to retain all four components (Table 5.8.11) for further investigation as Varimax rotation cannot be performed with only one component extracted.

**Table 5.8.11**
**Independent Variables retained for PCA**

| Variable | Items |
|---|---|
| Store Loyalty | I plan to continue to shop at this store |
| | I will shop more frequently at this store in the future |
| | It is very likely that I shop at this store in the future |
| | This store is my first choice in health related merchandise shopping |

## 5.4 Reliability Test

A reliability test ensures consistent measurement across time and across the various items in the instruments. Reliability is the ability of a tool to measure a concept in a consistent manner. In this study, the reliability of the standardized scales was confirmed using Cronbach‘s coefficient alpha.

The higher the alpha value is, the more reliable the test but there isn't a generally agreed value. According to Bowling (2002, p.147) an alpha of 0.5 or higher is considered as acceptable for internal consistency. Helms et. al (2006) suggested that this value is required for unspecified reasons; while Nunnally (1978) suggested that usually 0.7 and above is acceptable. Cortina (1993) argued that an alpha value of 0.5 to 0.6 could be considered poor. In case of exploratory researches, Hair et. al (1998) suggested that Cronbach's alpha values above 0.60 are acceptable.

Reliability test was performed for each of the variable construct to determine the Cronbach’s Alpha and the results are presented in the next few pages (sections 5.9.1 to 5.9.16). Four constructs were deleted out of the original 21 constructs that made up the 6 components of independent variables after factor analysis; 17 constructs remained. Reliability test for store satisfaction and loyalty showed high Cronbach’s alpha with deletion unnecessary. Out of the 6 image attribute variables, three still showed Cronbach’s alpha of below 0.5 even after deletion to improve reliability.

### 5.4.1 Reliability test for Convenience

The reliability test for convenience yielded a Cronbach’s Alpha of 0.262. However, after deleting 1 of the constructs (“the in-store service is generally good”), a more favorable alpha value of 0.846 was obtained.

**Table 5.9.1**
**Reliability test for Convenience**

| Cronbach's Alpha | N of Items |
|---|---|
| .262 | 3 |

| Construct | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| The store is located near your work place or home | 7.14 | .691 | .413 | -.636[a] |
| The store is easily accessible to you | 7.08 | .765 | .497 | -.746[a] |
| The in-store service is generally good | 7.29 | 1.969 | -.280 | .846 |

a. The value is negative due to a negative average covariance among items.

**Table 5.9.2**
**Reliability test for Convenience after 1 deletion**

| Cronbach's Alpha | N of Items |
|---|---|
| .846 | 2 |

### 5.4.2 Reliability test for Atmosphere

The reliability test for atmosphere yielded a Cronbach's Alpha of -0.015. Two items were deleted to give an alpha value of 0.514.

**Table 5.9.3**
**Reliability test for Atmosphere**

| Cronbach's Alpha | No. of Items |
|---|---|
| -.015 | 5 |

| Construct | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| The store interior design, decorations, building & fixtures are sufficient | 12.44 | 2.117 | .079 | -.151[a] |
| I am satisfied with the products purchased here that I am currently using | 11.91 | 3.074 | -.194 | .195 |
| The store projects a suitable persona that I like (e.g. modern or conservative) | 12.87 | 2.456 | .134 | -.162[a] |
| The store personnel behavior suits the store patrons | 12.65 | 2.016 | .119 | -.223[a] |
| The store accept major credit/debit cards | 12.34 | 2.763 | -.127 | .151 |

a. The value is negative due to a negative average covariance among items.

**Table 5.9.4**
**Reliability test for Atmosphere after 1 deletion**

| Cronbach's Alpha | No. of Items |
|---|---|
| 0.195 | 4 |

| Construct | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| The store interior design, decorations, building and fixtures are sufficient | 8.80 | 1.817 | .201 | -.024[a] |
| The store projects a suitable persona that I like (e.g. modern or classic/conservative) | 9.23 | 2.211 | .263 | -.023[a] |
| The store personnel behavior suits the store patrons | 9.01 | 1.792 | .211 | -.043[a] |
| The store accept major credit/debit cards | 8.70 | 2.954 | -.198 | .514 |

a. The value is negative due to a negative average covariance among items.

**Table 5.9.5**
**Reliability test for Atmosphere after 2 deletions**

| Cronbach's Alpha | No. of Items |
|---|---|
| 0.514 | 3 |

### 5.4.3 Reliability test for Institutional Factors

The reliability test for institutional factors showed a Cronbach's Alpha of -0.652. After one item was deleted the Cronbach's alpha value of 0.633 was obtained.

**Table 5.9.6**
**Reliability test for Institutional Factors**

| Cronbach's Alpha | No. of Items |
|---|---|
| -.652 | 4 |

| Construct | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| The store offers quality merchandise | 9.86 | 1.331 | -.136 | -.608[a] |
| The sales clerk/employees are courteous, helpful & friendly | 10.44 | 1.129 | -.233 | -.369[a] |
| The store has loyalty program (Member Card) or discount coupons | 11.03 | 1.460 | -.271 | -.305[a] |
| The in-store facilities are sufficient (e.g. washroom, chair) | 10.60 | 1.090 | -.227 | -.397[a] |

a. The value is negative due to a negative average covariance among items.

**Table 5.9.7**
**Reliability test for Institutional Factors after 1 item deleted**

| Cronbach's Alpha | No. of Items |
|---|---|
| -.305 | 3 |

| Construct | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| The store offers quality merchandise | 6.91 | 1.164 | .025 | -.560[a] |
| The sales clerk/employees are courteous, helpful, friendly | 7.50 | .814 | -.055 | -.521[a] |
| The in-store facilities are sufficient (e.g. washroom, chair) | 7.65 | 1.239 | -.277 | .388 |

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

**Table 5.9.8**
**Reliability test for Institutional Factors after 2 items deleted**

| Cronbach's Alpha | No. of Items |
|---|---|
| .388 | 2 |

### 5.4.4 Reliability test for Promotion

The reliability test for promotion showed a Cronbach's Alpha of 0.457. Items cannot be deleted and therefore could not be improved further.

**Table 5.9.9**
**Reliability test for Promotion**

| Cronbach's Alpha | No. of Items |
|---|---|
| .457 | 2 |

| Construct | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| The store organizes special promotional campaigns or events | 3.70 | .365 | .319 | .[a] |
| The store offers guarantees on the merchandise sold | 3.19 | .792 | .319 | .[a] |

a. The value is negative due to a negative average covariance among items.

### 5.4.5 Reliability test for Service

One item was deleted to improve the service Cronbach's Alpha from -0.206 to 0.380.

**Table 5.9.10**
**Reliability test for Service**

| Cronbach's Alpha | No. of Items |
|---|---|
| -.206 | 3 |

| Construct | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| The store layout makes it easy to find things and move around | 6.68 | 1.435 | -.237 | .380 |
| Sales transactions and records are error free | 6.76 | .993 | -.044 | -.321[a] |
| The availability of well-known brands | 6.92 | 1.272 | .085 | -.552[a] |

a. The value is negative due to a negative average covariance among items.

**Table 5.9.11**
**Reliability test for Service after 1 item deleted**

| Cronbach's Alpha | No. of Items |
|---|---|
| .380 | 2 |

### 5.4.6 Reliability test for Post-transaction Satisfaction

The reliability test showed a Cronbach's Alpha of 0.185. After two items were deleted the Cronbach's alpha value of 0.630 was obtained for post-transaction satisfaction.

**Table 5.9.12**
**Reliability test for Post-transaction Satisfaction**

| Cronbach's Alpha | No. of Items |
|---|---|
| -.095 | 4 |

| Construct | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| I am satisfied with the merchandise returns experience in this store | 10.35 | 1.160 | .027 | -.207[a] |
| The store offers competitive prices | 9.73 | 1.538 | -.053 | -.059[a] |
| Shopping at this store is appeals to my social standing & class level | 11.25 | 1.118 | -.024 | -.109[a] |
| The store offers everyday low price | 9.98 | 1.346 | -.109 | .069 |

a. The value is negative due to a negative average covariance among items.

**Table 5.9.13**
**Reliability test for Post-transaction Satisfaction after 1 item deleted**

| Cronbach's Alpha | No. of Items |
|---|---|
| .069 | 3 |

| Construct | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| I am satisfied with the merchandise returns experience in this store | 6.56 | .762 | .086 | -.112[a] |
| The store offers competitive prices | 5.93 | 1.302 | -.154 | .338 |
| Shopping at this store is appeals to my social standing & class level | 7.46 | .567 | .152 | -.407[a] |

a. The value is negative due to a negative average covariance among items.

**Table 5.9.14**
**Reliability test for Post-transaction Satisfaction after 2 items deleted**

| Cronbach's Alpha | No. of Items |
|---|---|
| 0.338 | 2 |

### 5.4.10 Reliability test for Store Satisfaction

The reliability test for store satisfaction showed a Cronbach's Alpha of 0.965 and reflected high degree of reliability.

**Table 5.9.15**
**Reliability test for Store Satisfaction**

| Cronbach's Alpha | No. of Items |
|---|---|
| 0.945 | 4 |

### 5.4.11 Reliability test for Store Loyalty

The reliability test for store loyalty showed a Cronbach's Alpha of 0.819 and reflected high degree of reliability.

**Table 5.9.16**
**Reliability test for Store Loyalty**

| Cronbach's Alpha | No. of Items |
|---|---|
| 0.819 | 4 |

The final construct after reliability testing is presented in the table 5.9.29 below.

**Table 5.9.17**
**Reliability test Summary**

| | | Cronbach's Alpha | |
|---|---|---|---|
| **Attrib.** | **Construct Items** | **Original** | **After Deleting** |
| Conve-nience | The store is located near your work place or home<br>The store is easily accessible to you<br>~~The in-store service is generally good~~ | 0.262 | 0.846 |
| Atmosphere | The store interior design, decorations, building & fixtures are sufficient<br>~~I am satisfied with the products purchased here that I am currently using~~<br>The store projects a suitable persona that I like<br>The store personnel behavior suits the store patrons<br>~~The store accept major credit/debit cards~~ | -0.015 | 0.514 |
| Institutional Factors | The store offers quality merchandise<br>~~The sales clerk/employ. are courteous, helpful & friendly~~<br>The store has loyalty program or discount coupons<br>~~The in-store facilities are sufficient (e.g. washroom, chair)~~ | -0.652 | 0.388 |
| Promo-tion | The store organizes special promotional campaigns or events<br>The store offers guarantees on the merchandise sold | 0.457 | 0.457 |
| Service | ~~The store layout is easy to find things,move & around~~<br>Sales transactions & records are error free<br>The availability of well-known brands | -0.206 | 0.380 |
| Post-Transaction Satisfaction | I am satisfied with the merchandise returns experience in this store<br>~~The store offers competitive prices~~<br>Shopping at this store is appeals to my social standing & class level<br>~~The store offers everyday low price~~ | -0.095 | 0.338 |
| Store Satisfaction | The store did a good job in satisfying my needs<br>Using this store is a very satisfying experience<br>I am satisfied with my decision to shop at this store<br>I made the right decision when I decided to shop at this store | 0.945 | 0.945 |
| Store Loyalty | I plan to continue to shop at this store<br>I will shop more frequently at this store in the future<br>It is very likely that I shop at this store in the future<br>This store is my first choice in health related merchandise shopping | 0.819 | 0.819 |

## 5.5 Test of Hypotheses

### 5.5.1 Correlation Analysis: Establishing relationship of store attributes store satisfaction and store loyalty

Correlation analysis is used to examine the relationship between two variables in a linear fashion (Pallet, 2001). The Pearson product-moment correlation coefficients were utilized to measure the relationship between (1) the store image attributes and store satisfaction, and (2) store satisfaction and store loyalty. Preliminary analysis was performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity.

There was a weak, positive correlation between store image attributes and store satisfaction [r=0.108, n=246]. It was also discovered that there was a strong, positive correlation between store satisfaction and store loyalty [r=0.715, n=246]. Table 5.10 shows summary of the correlation analysis. This result confirms the result of Bloemer and Ruyter (1998), Westbrook (1981) and Doreen and Benjamin (2003) among various others who found that image attributes of the stores has a direct influence on store satisfaction; and that store satisfaction has a direct influence on store loyalty.

**Table 5.10:**
**Summary of Correlation Analysis**

| Variables | Pearson Correlation, r | Significance | Strength of relationship |
|---|---|---|---|
| Store Image and Satisfaction | 0.108 | 0.046* | Weak |
| Satisfaction and Loyalty | 0.715 | 0.0005 ** | Strong |

*Correlation is significant at the 0.05 level (1-tailed). **Correlation is significant at the 0.01 level (2-tailed).

The strength of relationship is based on Cohen (1988) who proposed a guide to determine strength of relationship between two variables as summarized in the table 5.10.1 below.

**Table 5.10.1**
**Strength of Relationship between Two Variables (Cohen, 1988)**

| Value of Pearson Correlation (r) | Strength of the Relationship |
|---|---|
| r = .10 to .29 or r = -.10 to -.29 | Small (Weak) |
| r = .30 to .49 or r = -.30 to -.49 | Medium |
| r = .50 to 1.0 or r = -.50 to -1.0 | Large (Strong) |

Pallant (2005) states that many authors have suggested that correlation analysis should be focused at the relationship of the variables and that statistical significance is reported but ignored. The summary of the correlation strength of each aggregate independent variable (i.e. store image attribute) to store satisfaction is shown in Table 5.11. The independent variables “merchandise”, “clientele” and “in-store facilities” were not tested as they were eliminated at the factor analysis stage.

**Table 5.11**
**Summary of Correlation Analysis**

| Variables | Pearson Correlation, r | Sig. | Strength of relationship |
|---|---|---|---|
| *Merchandise & Satisfaction* | Variable removed after factor analysis | | |
| *Clientele & Satisfaction* | Variable removed after factor analysis | | |
| *In-Store Facilities & Satisfaction* | Variable removed after factor analysis | | |
| Service & Satisfaction | -.307 | .000* | Medium |
| Convenience & Satisfaction | -.307 | .000* | Medium |
| Promotion & Satisfaction | .189 | .001* | Weak |
| Store Atmosphere & Satisfaction | -.027 | .336 | None |
| Institutional Factors & Satisfaction | .075[a] | .121 | Weak |
| Post-transaction satisfaction & Satisfaction | .189 | .001* | Weak |

*Correlation is significant at the 0.01 level (2-tailed); [a] rounded up to 0.01

Two of the store images attributes measured showed medium relationship, three showed weak relationship to store satisfaction, while one showed no relationship. Two of the attributes with medium relationship were negatively correlated (service and convenience).

The result of hypotheses testing is shown in table 5.12. The results go to show that hypothesis 1, 7, 9, 10 and 11 are supported by the study while hypotheses 3, 6 and 8 were rejected.

The independent variables “merchandise”, “clientele” and “in-store facilities” were not tested as they were eliminated at the factor analysis stage; these attributes were neither confirmed nor rejected based on the correlation analysis. However, the study concludes that they are not store image attributes that contribute to store satisfaction in the Malaysian context.

**Table 5.12.1**
**Summary of Result for Hypothesis**

| Hypotheses | Result |
|---|---|
| H1: Store attributes have a direct positive effect on store satisfaction | Supported |
| H7: Promotion has a direct positive effect on store satisfaction | Supported |
| H9: Institutional factors has a direct positive effect on store satisfaction | Supported |
| *H10: Post-transaction satisfaction has a direct positive effect on store satisfaction* | *Supported* |
| H11: Store satisfaction has a direct positive effect on store loyalty | Supported |
| *H3: Service has a direct positive effect on store satisfaction* | *Unsupported* |
| *H6: Convenience has a direct positive effect on store satisfaction* | *Unsupported* |
| H8: Store atmosphere has a significant impact on store satisfaction | *Unsupported* |

**Table 5.12.1**
**Summary of Result for Hypothesis**

| Hypotheses | Result |
|---|---|
| H2: Merchandise has a direct positive effect on store satisfaction | Not tested (removed in factor analysis) |
| H4: Clientele has a direct positive effect on store satisfaction | |
| H5: In-Store facilities has a direct positive effect impact on store satisfaction | |

## 5.6 Multiple Regression Analysis

Multiple regression predicts the relationship of a number of independent variables with a dependent variable. Pallant (2005) states that "multiple regression is able to provide the information about the model as a whole (all subscales), and the relative contribution of each of the variables that make up the model (individual subscales)".

### 5.6.1 Store Image Attributes that Influence Store Satisfaction

In using multiple regression to examine the relative importance of the nine store image attributes for predicting store satisfaction, the R-Square ($r^2$) result is observed (see Table 5.13). The analysis shows that store image attribute explains 23.2% of the variance of store satisfaction model. The result for the ANOVA test (see table 5.14) shows statistical significance ($p<.0005$) and rejects the null hypotheses.

**Table 5.13:**
**Model summary[b] for store satisfaction**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .501[a] | .251 | .232 | 2.02435 |

a. Predictors: (Constant), PostTransactionSatisfaction_Tot_New, InstoreService_Tot_New, Convenience_Tot_New, StoreAtmosphere_Tot_New, InstFactors_Tot_New, Promotion_Tot_New b. Dependent Variable: Store Satisfaction_Tot_New

**Table 5.14:**
**Result for ANOVA[b] test**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 327.392 | 6 | 54. 655 | 13.315 | .000[a] |
| | Residual | 979.421 | 239 | 4.098 | | |
| | Total | 1306.813 | 245 | | | |

a. Predictors: (Constant), StoreImage_Tot_New b. Dependent Variable: StoreSatisfaction_Tot_New

The beta (ß) values under standard coefficients (Table 5.15) show which of the variables in the model contributed to the prediction of the dependent variable (Pallant, 2005). The result shows that merchandise and convenience are the 2 independent variables among the nine evaluated showing statistical significance ($p<0.05$) and making significant contribution to the prediction of the dependent

variable (i.e. store satisfaction) of the model.

**Table 5.15**
**Coefficients[a] of Store Attributes and Store satisfaction**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 14.058 | 2.104 | | 6.683 | .000 | | |
| | Convenience | -.502 | .095 | -.305 | -5.292 | .000 | .943 | 1.061 |
| | Store Atmosphere | .128 | .078 | .095 | 1.645 | .101 | .936 | 1.068 |
| | Institutional Factors | .282 | .196 | .083 | 1.436 | .152 | .948 | 1.055 |
| | Promotion | .391 | .109 | .207 | 3.573 | .000 | .932 | 1.073 |
| | Service | -.569 | .111 | -.295 | -5.125 | .000 | .947 | 1.056 |
| | Post-Transaction Satisfaction | .251 | .117 | .124 | 2.148 | .033 | .942 | 1.061 |

a. Dependent Variable: StoreSatisfaction_Tot_New

### 5.6.2 Store Satisfaction effect on Store Loyalty

Results of model summary of the multiple regression analysis of the relative importance of store satisfaction for predicting store loyalty is shown in Table 5.16. The satisfaction model explains 51.8% of the variance of store loyalty model. The ANOVA test shows statistical significance (p<.0005) and thus rejects the null hypotheses.

**Table 5.16**
**Model summary[b] for store loyalty**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .725[a] | .526 | .518 | 1.61704 |

a. Predictors: (Constant), StoreSatisfaction_Tot_New b. Dependent Variable: StoreLoyalty_Tot_New

**Table 5.17**
**Result for ANOVA[b] test**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 697.916 | 4 | 174.479 | 66.727 | .000[a] |
| | Residual | 630.170 | 241 | 2.615 | | |
| | Total | 1328.085 | 245 | | | |

a. Predictors: (Constant), I made the right decision when I decided to shop at this store, The store did a good job in satisfying my needs, I am satisfied with my decision to shop at this store, Using this store is a very satisfying experience; b. Dependent Variable: StoreLoyalty_Tot_New

The beta ( β ) values under standard coefficients (Table 5.18) show which of the variables in the model contributed to the prediction of the dependent variable (Pallant, 2005). The result shows that 3 out of the 4 satisfaction variables evaluated showed statistical significance ($p<0.05$) and making significant contribution to the prediction of the dependent variable (store loyalty) of the model.

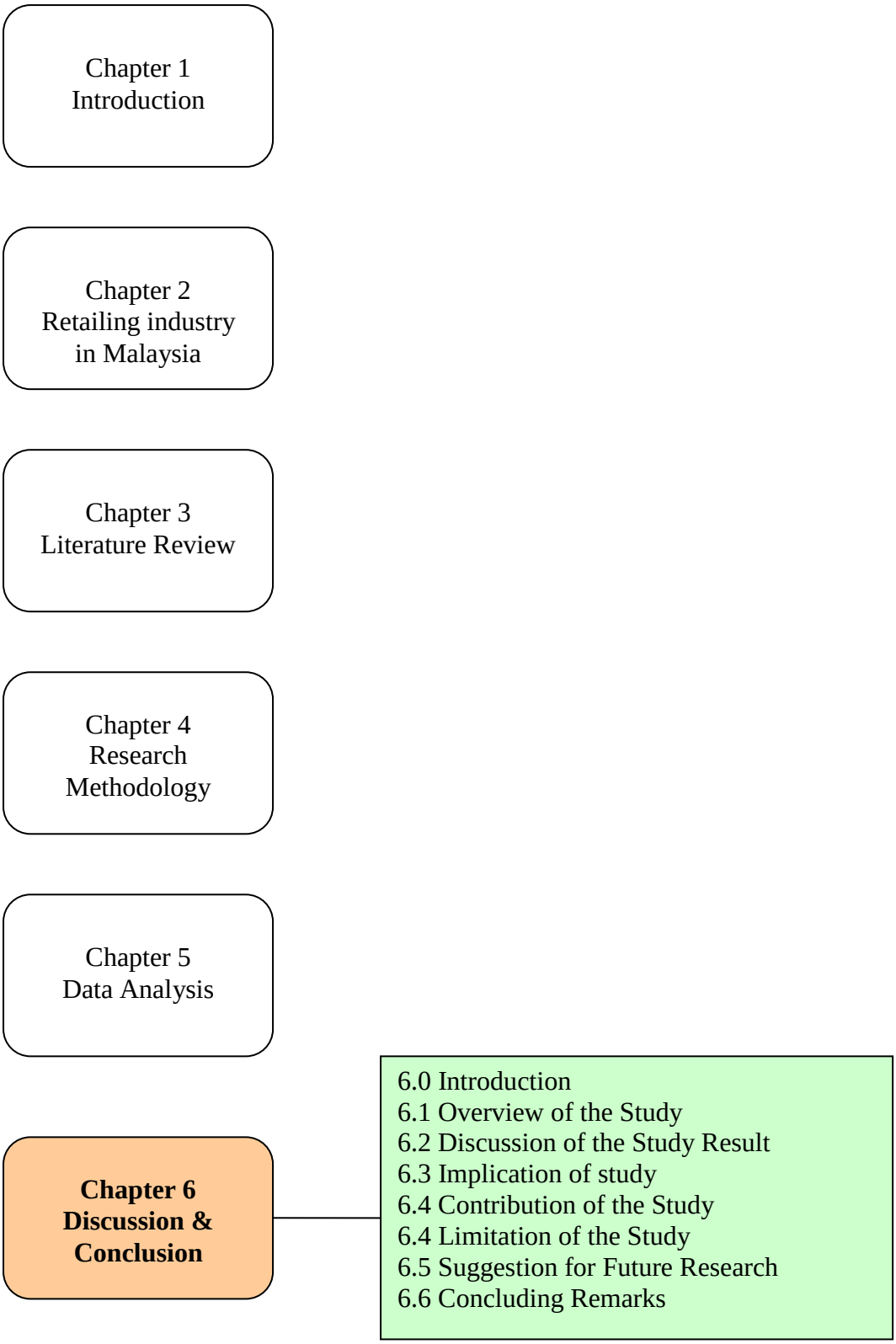
**Table 5.18**
**Coefficients[a] of Store satisfaction and Store Loyalty**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 3.702 | .689 | | 5.372 | .000 | | |
| | The store did a good job in satisfying my needs | 1.012 | .362 | .280 | 2.796 | .006 | .197 | 5.085 |
| | Using this store is a very satisfying experience | 2.033 | .626 | .561 | 3.249 | .001 | .066 | 15.138 |
| | I am satisfied with my decision to shop at this store | -.841 | .585 | -.244 | -1.438 | .152 | .069 | 14.588 |
| | I made the right decision when I decided to shop at this store | .769 | .298 | .173 | 2.581 | .010 | .441 | 2.270 |

a. Dependent Variable: StoreLoyalty_Tot_New

## 5.7 Chapter Conclusion

Chapter 5 saw various data analysis methods to understand the results of the study. It included descriptive statistics of shopping pattern and respondent demographics, Factor analysis and reliability test of variables, correlation analysis to test the hypothesis, regression analysis to test the relationships of the dependent variables and independent variables and analysis of variance (ANOVA) to compare the mean score of store attributes.


Chapter 1
Introduction
Chapter 2
Retailing industry
in Malaysia
Chapter 3
Literature Review
Chapter 4
Research
Methodology
Chapter 5
Data Analysis
Chapter 6
Discussion &
Conclusion
6.0 Introduction
6.1 Overview of the Study
6.2 Discussion of the Study Result
6.3 Implication of study
6.4 Contribution of the Study
6.4 Limitation of the Study
6.5 Suggestion for Future Research
6.6 Concluding Remarks

## CHAPTER 6: Discussion & Conclusion

### 6.0 Introduction

In this chapter we will discuss the study findings in more detail and the implications of the study. In the discussion, there will also be suggestions on strategies that could be pursued to improve satisfaction. We also look at the contribution of the study to the field of retailing in Malaysia and finally make recommendations for future research.

### 6.1 Overview of the study

This study was aimed at identifying the relationship of store attribute to store satisfaction and loyalty in the Malaysian retail pharmacy market. The relationship between store image attributes, store satisfaction and loyalty in the retail pharmacy is severely lacking compared to the avalanche of resources available for grocery store and other retail formats.

The respondents selected are consumers recruited whilst they patron a pharmacy. This ensures insights gained on their behavior and perceptions are accurate as it captures the perception of actual patrons. It has also been warned by other authors that intention of performing an action differs greatly from an action itself (Rimal et.al, 1999). Therefore, a respondent in university who is asked about retail pharmacy store image preferences will give a hypothetical answer of what he thinks is preferred and is often misleading compared to an actual patron who has exhibited a behaviour that is being studied.

### 6.2 Discussion of study results

The finding of the study confirmed other studies conducted internationally and locally. The framework model proposed by Lindquist (1974-1975) and Bloemer and Ruyter (1997) to investigate the relationship of store image attributes to store satisfaction was confirmed in this study. Store image was found to have a direct positive relationship, although weak, relationship to store satisfaction. Store

satisfaction was found to have a strong positive relationship to loyalty. However, only promotion, institutional factors and post-transactional satisfaction were determined to be the three attributes that influence retail pharmacy store satisfaction. Hypotheses for the other attributes (service, atmosphere and convenience) were rejected. The independent variables “merchandise”, “clientele” and “in-store facilities” were not tested as they were eliminated at the factor analysis stage; the study concludes that they are not store image attributes that contribute to store satisfaction in the Malaysian context. With this finding, the conceptual model is modified as follows:

**Figure 6.1**

**Relationship between Store Image Attributes, Store Satisfaction and Store Loyalty in Malaysian retail pharmacies**


**Table 6.1**
**Store Image Attributes Summary**

| Attributes | Constructs |
|---|---|
| Institutional Factors | The store offers quality merchandise |
| | The store has loyalty program or discount coupons |
| Promotion | The store organizes special promotional campaigns or events |
| | The store offers guarantees on the merchandise sold |
| Post-Transaction Satisfaction | I am satisfied with the merchandise returns experience in this store |
| | Shopping at this store is appeals to my social standing & class level |
| Store Satisfaction | The store did a good job in satisfying my needs |
| | Using this store is a very satisfying experience |
| | I am satisfied with my decision to shop at this store |
| | I made the right decision when I decided to shop at this store |
| Store Loyalty | I plan to continue to shop at this store |
| | I will shop more frequently at this store in the future |
| | It is very likely that I shop at this store in the future |
| | This store is my first choice in health related merchandise shopping |

However, based on factor analysis, the store image attribute items that made up each construct were different in this study compared to Lindquist (1974-75). This could simply be due to the items being perceived differently by Malaysian consumers. The final list of items is shown in table 6.1. Items that were part of other attributes as defined by Lindquist (1974-75) are now part of different attributes. The following sections will discuss these results further.

### 6.2.1 Store image attributes, store satisfaction and store loyalty

There was a weak, positive correlation between store image attributes and store satisfaction. A strong, positive correlation between store satisfaction and store loyalty was found as well. Hypotheses testing supported the hypothesis that "store attributes have a direct positive effect on store satisfaction (H1)" and "store satisfaction has a direct positive effect on store loyalty (H11)". Both the hypotheses have previously been confirmed by other authors including Lindquist (1974-1975) and Bloemer and Ruyter (1997). It was a surprise to see only a weak relationship between store image attributes and store satisfaction.

An immediate suspicion is that the image attributes proposed by Lindquist may not be appropriate for the Malaysian market in that the aggregate attributes may need to be broken down further. This is further illustrated where only 5 out of the 9 store image attribute hypothesis proposed by Lindquist (1974-1975) were supported. The hypotheses evaluating the aggregate attributes of merchandise, service, clientele and convenience were rejected. Some authors (Baidi and Yip, 2010 and Jantan et. al, 1999) have used price as a construct of its own instead of being part of merchandise. At the same time, clientele and institutional factors have been completely omitted by both authors as they have been found not to be relevant in modern times. These could improve the strength of the relationship in future studies. Store image attribute model based on the retail mix could be considered.

### 6.2.2 Promotion & Store Satisfaction

The result supported the hypothesis that promotion has a direct positive effect on store satisfaction (H7). The two constructs of promotion as an image attribute are (1) The store organizes special promotional campaigns or events, and (2) the store offers guarantees on the merchandise sold. The second construct (guarantees on

the merchandise sold) was previously defined by Lindquist (1974-75) to be an item in the merchandise image attribute construct. It could be postulated that granting of merchandise guarantee is viewed by retail pharmacy consumers as a promotional activity where such guarantees are given to attract customers and improve sale.

Retailers could adopt strategies consistent with this finding including:

- Organising activities and events at the retail store may increase store traffic and this can be converted to sale. Examples of promotional events could be health screening campaigns, drug talk, smoking cessation clinic and awareness campaigns
- Sales promotions promote brand loyalty but do not cause brand switching (The Edge Malaysia, Dec 2010)

### 6.2.3 Institutional Factors & Store Satisfaction

Hypothesis 9 (Institutional factors has a direct positive effect on store satisfaction) was supported after correlation analysis. The two attribute constructs of institutional factors are: (1) The store offers quality merchandise, and (2) the store has loyalty program or discount coupons. The first construct (quality merchandise) was previously defined by Lindquist (1974-75) to be an item in the merchandise image attribute construct while “loyalty program or discount coupons” was originally a construct of promotion.

From the perspective of the Malaysian retail consumer, it could mean that only reputable and trustworthy retailers offer quality merchandise and loyalty programs, and thus redefining the constructs from a Malaysian perspective. It has been established by Lindquist (1974-1975) and Arnold (1978) that institutional factors is part of the complex components that make up store image. Institutional factors give confidence that allows consumers to shop in a retail store.

There are a few strategies that retailers may adopt to improve store satisfaction via institutional factors:

- Visibility of the manager on the floor and allowing access to interact with the manager could improve the confidence level of shoppers

- Consumer social responsibility projects in the community may improve store perception in that community
- Cretton-Scott et. al (2011) found that pharmacists wearing their white lab coats improve customer perception of professionalism, knowledge, approachability
- Addressing the perceived risk of consumers when making a purchase could improve its reputation at no cost. The store clerks should inform and highlight to customers the superior quality, functionality, reliability, availability of warranties to ensure they are satisfied.
- Membership (or loyalty) card could give customers a sense of attachment to the retail outlet. Bellizzi and Bristol (2004) identified effectiveness of supermarket loyalty cards to enhance store loyalty and noted that loyalty cards alone is insufficient to retain customer. Commonly users of loyalty card also shop at different stores and use other loyalty cards (Davies, 1998). Gable et al (2008) suggested that loyalty programs are one way to create effective rewards to reward customers
- Discounts offered to family members and a referral reward system to the consumer could also improve satisfaction.

### 6.2.4 Post-transactional Satisfaction & Store Satisfaction

The result also supported the hypothesis that p*ost-transactional satisfaction* has a direct positive effect on store satisfaction (H7). The two constructs of promotion as an image attribute are (1) satisfaction with the merchandise returns experience in this store, (2) appeals to my social standing & class level when shopping at the store. The second construct was originally an item in the merchandise image attribute construct as defined by Lindquist (1974-75).

The retail pharmacy, catering to consumers seeking medications to ailments and preventive therapy is a normal good as defined in economic terms where an increase in income causes an increase in demand (i.e. positive income elasticity). Therefore, shopping in retail pharmacy can be perceived as a reaffirmation of social class (Weale, 1961). This goes on to improve post-transactional satisfaction once self image has been reaffirmed positively.

Strategies to exploit this finding may include:

- Assuring customers on their right attitude towards health by shopping at the retail pharmacy
- Reminding the consumer friendly merchandise return policy before customers leave the store after a purchase

### 6.2.5 Store Satisfaction & Store Loyalty

Store satisfaction was found to have a direct positive effect on store loyalty and hypothesis 11 was accepted. The five constructs of store satisfaction are: (1) the store did a good job in satisfying my needs, (2) using this store is a very satisfying experience, (3) I am satisfied with my decision to shop at this store, and (4) I made the right decision when I decided to shop at this store.

It needs to be understood that the image attributes paint a complex image in the customers mind leading to satisfaction. In addition to the recommendations given, retailers could also explore the following actions:

- Obtaining feedback for identifying specific strengths and gaps would ensure continuous ability to stay competitive
- Constantly seek to improve service. This could include something as simple as addressing long waiting times with point of purchase activities or pleasant music which takes the sting out of long queues
- Pharmacy staff influence pharmacy selection and therefore, optimal staff selection, training and coaching is the most important investment (Franic et. al, 2008).

## 6.3 Marketing & Managerial Implications

The study attempted to understand the consumer trend in retail pharmacy in Malaysia. First, retail pharmacies are well established as the preferred format for healthcare product and services. However, the survey revealed that hypermarkets are growing in its importance and seem to have surpassed traditional grocery stores, including Chinese medical hall, for the same product categories. It is expected that hypermarkets will grow in importance in coming years due to the

convenience it offers to consumers. The shift from shopping in traditional stores to hypermarket will also see retailers expanding into malls and outlets within hypermarkets. Even now, all Tesco outlets in Malaysia house Guardian Pharmacy, while outlets in the Klang valley also house a Caring Pharmacy branch.

Secondly, with the relationship between store image attributes and store satisfaction established, careful planning of store image from the onset would greatly benefit retailers. It is common to see traditional mom and pop retailers focused on choosing a strategic location with the most traffic but forget accessibility and parking convenience; focused on cut throat pricing to beat the competition but neglect the level of service; offering the most basic in-store physical facilities to minimize start-up capital and overhead without considering customer comfort branding.

Thirdly, it was discovered that store image attributes independently are poor predictors of store satisfaction as store image is often viewed as a complex interrelated set of attributes in the consumer's mind. Careful consideration of attributes to build up the store image and attract consumers is an imperative task for retailers. The retail mix that is customized in the Malaysian context can be of great benefit to build store satisfaction and loyalty.

Finally, a simple measure such as the presence of managers at shop floor and wearing lab coat adds to consumer confidence (institutional factors) and builds a strong reputation. The store clerks should inform customers of merchandise quality, functionality, reliability, availability of warranties to ensure they are satisfied so that perceived risk of purchase is alleviated. These measures are often taken for granted.

## 6.4 Contribution of the study

*Attribute Model*

The study adds to the existing limited body of work on retail pharmacy in Malaysia. Past studies by Baidi and Yip (2010) evaluated store image attributes based on a shortened version of retail mix attributes: (1) service, (2) product, (3) price, (4) in-store facilities, (5) location and convenience. The current study attempts to utilize the model developed by Lindquist (1974-1975) which looks at nine image attributes. This allows for the evaluation of attributes such as promotion, clientele, post transaction satisfaction and institutional factors to the development of store image.

Other studies of the retail sector in Malaysia also adapted the retail mix attributes. Ong and Chuah (2006) evaluated 35 attributes constructs independently without categorizing them. The attributes can be classified into seven categories as suggested by Lindquist. These constructs were adopted and adapted from Lumpkin et al (1985) and Lambert (1979); however, an additional eight attribute constructs relevant for the Malaysian society was added although it wasn't clear how it was obtained. Wong et. al (2012) only selected five attributes based on Bellenger et. al (1977) and Ganesh et. al (2007): store quality, quality of merchandise, convenience, enhancements and price orientation which were determined to be suitable for shopping centers.

Jin and Kim (2001) concluded that store attributes varies by store format and customer base. Erdem et. al (1999) revealed that the importance of the store attributes may vary depending on the purpose of shopping and thus may vary for different retail store formats. A systematic approach to understanding the attributes relevant to retail pharmacy may be beneficial to retailers and marketers, as attempted in the current study. Merchandise, clientele, promotion, store atmosphere, institutional factors were determined to be the five attributes that influence retail pharmacy store satisfaction; and could be the precursor for other studies to test the relevance of other attributes in the Malaysian context.

*Study Representation*

Baidi and Yip (2010) conducted the survey in 30 pharmacies in the Klang Valley. Although 44% of pharmacies are located in the Klang Valley, the current study also looks at the states of Perak and Penang where 18% of the Malaysian pharmacies are. This gives a more balanced representation of retail pharmacies in the west coast of peninsula Malaysia. As most institutions of higher learning in peninsula Malaysia are located in the Klang Valley, academic works frequently focus on the communities in Klang Valley for practical reasons.

## 6.5 Limitations of the study

This study was limited to consumers in select retail pharmacies in Perak, Kuala Lumpur, Selangor and Penang which may not be truly representative of the total Malaysian market. Additionally, the locations sampled are urban or suburban and may not be representative of more rural settings or smaller towns.

The study assumes that the aggregate attributes suggested by Lindquist (1974-1975) are appropriate for the Malaysian retail pharmacy. It was established din the previous section that store attribute importance varies by store format, customer base and purpose of shopping. Other variables that could be relevant to the Malaysian market such as religiosity was not considered as well as it was not included by Lindquist (1974-1975).

The survey questionnaire was in English as translating the questionnaire to Malay and validating it would take 3 to 6 months. Participants who did not understand the questionnaires declined to participate in the survey. This is a bias that could affect the study result.

This study is limited to consumers who use retail pharmacy as their primary health product channel. It would be of interest to see the response from those who use hypermarkets and traditional grocery store as well.

## 6.6 Suggestion for Further Research

A larger sample size representative of each state in Malaysia would be required for a better picture of the market preference. A larger sample size for each location sampled could result in a better understanding of the consumer behaviour and perceptions. A study done in a more diverse setting (including rural areas) allows for a better understanding of the retail preferences.

As explained in the next section, further investigation to attributes relevant to Malaysia is warranted before any attempt to cluster them together is made. Since the concept of store image attribute still needs exploring in Malaysia, all independent variables could be assessed first before making the decision of aggregating them together. Additionally, the relevance of using a retail mix attribute model which separates price could also be interesting as suggested by Ghosh (1990). Religiosity should be investigated on the ratail pharmacy context.

The survey questionnaire translated to Malay, Chinese and Tamil could avoid possible bias associated with excluding non English speaking respondents.

## 6.7 Concluding Remarks

The retail pharmacy sector in Malaysia is experiencing fast changes which are only expected to increase in the years to come. An understanding of store image attribute of retailer pharmacy in Malaysia allows a better understanding of consumer behavior. This allows in turn for better retail mix development.