The Study on the Store Image of Hypermarkets:

An Empirical Study of Carrefour, Fe-Amart, and Costco in Taiwan

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ABSTRACT

The purpose of this paper is to examine the important structures of store image and how to improve a hypermarket's store image to affect customer willingness to return. This study found that the greater shopping convenience, a complete range of products, good service, and regular activities, the greater customer loyalty. The store atmosphere has no significant impact on enhancing customer loyalty. Many store customers do not pay much attention to the quality of physical and software equipment in the store, but more attention to convenience, commodity integrity, good service, and regular activities. Whether a hypermarket can provide good service is a key niche for showing its competitiveness among its competitors. The results show that the more convenient the shopping convenience, the better the service, and the more regular activities a store provides, the less likely a customer will switch to other stores for shopping.

KEYWORDS

Consumer Satisfaction, Hypermarket, Repurchase Willingness, Service Quality, Store Image

1. INTRODUCTION

Huang C. (2004) pointed out that after the 1990's, due to the high economic development in Taiwan, national income rose, and people's living standards and quality of life improved. This also change patterns of living and created new consuming trends, and promoted the rapid growth of the integrated retail industry (such as hypermarkets, convenience stores, supermarkets and other chain stores). As a result, the traditional retail industry gradually lost the market. Hypermarket rose in recent years, with large store spaces, complete list of items, cheap and convenient parking and other advantages, leading to their growth, and contributing to their outstanding performance in the retail sphere. Hypermarkets occupy a pivotal position in Taiwan's integrated retail market, and also contribute to enhancing employment opportunities and promoting industrial prosperity. Hypermarkets have also attracted many scholars in Taiwan to carry out extensive studies on the topic of hypermarkets (Zhang G., 1992; Huang J., 2003; Huang H., 2003; Zhang Y., 2004; Zhang J., 2001; Li Q., 2004).

Examining the development of hypermarkets in Taiwan, beginning with the establishment of Markro and Carrefour in 1989 to 2003, respectively, there were originally 97 stores. After year 2000,

in a highly competitive environment, the number of hypermarkets reduced significantly, since the market environment had become highly competitive and oversaturated. In 2004, the highest share of Carrefour had 31 stores, followed by 22 stores of Rt-Mart, and 13 stores of Fe-amart. These three hypermarkets had a total of 66 shops, a share of 68% of retail market, showing that hypermarket dominated the retail market in Taiwan (Huang C., 2004). Therefore, as far as the operation of Taiwan's hypermarkets is concerned, how to establish a hypermarket's profits in a competitive environment should be a topic of consideration for the operators of hypermarkets. According to the study of Mitchell (2001), store image has a certain impact on store operation performance. Having store staff inside and outside the store, store design, its display of merchandise, customer service and other factors contribute to create a unique store image, so that customers can have a good understanding and impression of the store, and therefore will be more likely to return and shop at the store. This study intends to establish that a good image of the stores will help enhance customer's awareness and create a positive association, and thus help improve stores' operational performance. After reviewing the current literature regarding hypermarkets in Taiwan, most of them emphasize on how to improve the quality of service, improve customer satisfaction, enhance customer loyalty, establish a hypermarket's own brand, and engage in promotional activities. Although there are a few studies focusing on the store image, the emphasis is on the combination of marketing strategy and having the brand itself lead the discussion (company point of view). Little literature explores how to enhance the store image of a shop in order to encourage a customer's willingness to provide repeat business (customer point of view). According to Baker (2002), the willingness of customers to repurchase is an important indicator of consumer behavior. Thus, this study holds that it is important to explore customers' willingness to return and shop. However, consumers' behavior is varied in different countries or regions, therefore, it is necessary to re-examined the constructs of willingness to repurchase for evaluating consumers' behavior in Taiwan. In order to establish a suitable questionnaire for this research purpose, a data analysis technique is needed for deeply examining the content of questionnaire and factor loading analysis may be applied.

Mitchell (2001) pointed out that there are many variables that affect consumers' purchasing decisions, such as the type of product to be purchased, the brand, the place of purchase, the payment method, price, service, promotion, cleanliness in the store, and the overall store image. As far as the store image is concerned, it represents the consumer through the sense of functional attributes (such as product selection, store furnishings, price factors), and psychological attributes of the feeling (the feeling of warmth and intimacy), and produces the overall feeling and cognition of the store. The customer will compare this store with other using this feeling and cognition, which the produces purchase decisions. Therefore, this study will investigate Taiwan's well-known hypermarkets, and explore the connection between the store image and the willingness for repurchasing, to achieve the following research purposes: (1) To examine what are the important structures of the image of the store? (2) To specify what are the important constructs of understanding customers' willingness for repurchasing? (3) To explore how hypermarkets establish their store image impacts customers' willingness for repurchasing?

2. LITERATURE REVIEW

2.1. Hypermarkets

According to the Business Bureau within Taiwan's Ministry of Economy (2002) a hypermarket is defined as: "Where engaged in integrated commodity retailing, combined with warehousing and store integration of the industry, and has the following characteristics: A wide range of sales of goods (must be sold goods, and engaged in a single commodity sales of no more than 50%), the store area should be greater than 3300 square meters, with adequate parking spaces, self-service, and the price of merchandise trafficking is known as competitive."

The operating patterns of the stores are broadly divided into three categories: (1) general hypermarkets (hyper), (2) wholesale warehousing stores (cash & carry), and (3) club hypermarkets (club) (Chen, 2002). Hypermarkets' target customers are mostly office workers or housewives and have the characteristics of B to C (business to customer). Representing examples of hypermarkets are Carrefour, Rt-Mart, and Fe-amart.

Secondly, as far as wholesale warehousing stores are concerned, the target guests are professionals (such as small and medium-sized retailers, catering operators), with a characteristic of B to B (business to business). The industry representative is Makro (has ceased to operate in Taiwan).

Finally, for the club hypermarket, the target customer group has expensive taste, and does not want a crowded environment. This target customers group has the characteristics of non-business type consumers, and belong to the nature of B to C. The industry representative is Costco. The three different types of hypermarket operating characteristics are shown in Table 1.

A survey of the development of Taiwan's hypermarket, based on the study of Huang C. (2004), covers the annual turnover of major stores in Taiwan from 1993 to 2003 and the operating areas of major stores in various regions of Taiwan in 2003. The above report shows that the development of Taiwan's hypermarket, since 2000, has generally tended to be saturated, because of the large number of operators, and fierce market competition, so there is also one hypermarket ends its business operation. In addition, the current major market share of a large number of stores, mainly to foreign investment in the hypermarkets, such as Carrefour and Fe-amart aim to open shops nationwide. Many regional hypermarkets are owned by Taiwan's local operators, operating on a smaller scale, such as Rt-Mart and Dollars. The current market oligopoly in Taiwan's hypermarket is very obvious, so store operators should think about how to strengthen their store positioning (such as store image) in the future, so they are able to stand out in the face of continuous competition, and enhance their competitive advantage.

Table 1. Comparison of the operating patterns and characteristics of hypermarkets

Operating characteristics	Operating patterns		
	General hypermarket	**Wholesale warehousing hypermarket**	**Club hypermarket**
Industry representative(s)	Carrefour, Rt-Mart, Fe-amart	Makro	Costco
Customer types	families or business workers(non-membership &membership)	small & medium retailers, catering business (memberships)	families or business workers (membership)
Parking spaces	Enough/many	Enough/many	Enough/many
Commodity items	Many, single small package	Many, large package	Many, large package(import & band name products)
Price	Low price	Low price	Low price
Promotion	Frequent low price promotion activities	No frequent low price promotion activities (emphasis everyday low price)	No frequent low price promotion activities(except annual festival events)
Customer development	No	Yes	Yes
Characteristics of sale place	Bright lighting, spacious walkways, lots of on-site narrators and casual nature	Spacious shopping space, self-service	Spacious shopping space, casual nature, highlighting personal taste, self-service

Source: Organized by this study

2.2. Store Image

Martineau (1958) was the first to apply the store image concept to the retail sector, and he believed that the store's image, location, choice of goods, and price factors were also important factors driving customers in the purchasing decision-making process. Berman (1978) defined the store image is the combination of the function of the store and the emotional attribute, and these two attributes into the consumer's perceptual system, but also determine the consumer's impression and expectation of a store.

Kunkel (1968), Lindquist (1974), Engel (2001), Shuie Y. (1995), Ong (1996), and Ding X. (2002) all put forward different views on the store image. There are similarities and differences in the views of various studies. Therefore, this study groups the store image into five constructs and their main elements, as a reference for subsequent hypothesis inferences and data measurement, as follows:

1. Convenience
2. Full range of products
3. Store atmosphere
4. Good service
5. Regular activities

2.3. Customer Repurchase Intention

The marketing personnel should first have knowledge of consumer behavior and decision-making process before exploring the customer's willingness to repurchase. As Schiffman (1991) considered consumer behavior to be an act of finding, buying, using, and evaluating products and services to meet their needs. Rossiter (2003) considered consumer behavior to be the activities of consumers in the acquisition, consumption and disposal of goods and services, and is included in the decisions that are made before and after these actions.

According to the consumer behavior model proposed by Kotler (1999), marketing and environmental stimuli enter the buyer's consciousness (black box) and then exit as the purchase decision according to the buyer's own characteristics and his buying decision-making process.

According to Zeithaml, Berry, and Parasuraman (1996), a customer's willingness to repurchase can be measured in five constructs: loyalty, willingness to pay more, transferring ideas, response to external problems, and response to internal problems. As Zeithaml (1988) advocated that when consumers generate the benefits and values that depend on their perception, a willingness to repurchase is further generated.

In summary, different studies proposed that the factors influencing customers' willingness to repurchase are perceived value, quality, product reference price, advertising, brand, price promotion, customer loyalty, service compensation, customer satisfaction, and store image. However, for the purposes of this study, only the relationship between store image and customer repurchase will be explored, and the relevant hypothesis is discussed in the following sections.

2.4. Store Image and Customers' Repurchasing Intention

This study will use the following five constructs associated with store image: convenience, complete products, store atmosphere, good service, regular activities. In addition, this study also suggests that the customer's willingness to repurchase can be summed up in five constructs, including loyalty, customer willingness to pay more, transfer of ideas, response to external problems, response to internal problems. The following is intended to explore the relationship between the various constructs of the store image and the customer's willingness to repurchase, and to establish the relevant research hypothesis, which is summarized below.

2.5. The Impact of Store Image on Customers' Repurchasing Willingness

According to Lessing (1993), the store image is significantly related to customer loyalty and customer patronage behavior. Based on this, Sheth (1983) also pointed out a research structure for customer patronage behavior, such as personal factors and product factors that affect the motivation for shopping, and market factors and corporate factors will affect consumers' shopping choices, and the connotation of shopping motivation refers to consumers' functional demands on the store (e.g. commodity prices, parking convenience) and psychological needs (e.g. cognitive value to the store, emotion), through their perception of the store generated by the willingness to repurchase.

In summary, this study believes that Taiwan's hypermarkets have different operating characteristics and require different types of customers. In terms of the nature of the establishment of the image of the store, if one can provide customer convenience, complete goods, good store atmosphere, good service and frequently attractive events, all of these should help customers to repurchase. This study proposes hypothesis 1: the better the image of a hypermarket, the higher the customer's willingness to repurchase.

2.5.1. The influence of Convenience on the Customer's Willingness to Repurchase

Convenience means that the hypermarket can provide the customer's transportation, time, parking, payment method and checkout and other attributes in the purchase processes. As Lessing (1993) pointed out, for most consumers, place is considered the distance between time and entity, and in the consumer's cognitive map, the time and distance required to shop in the store affects their willingness to shop or not. In summary, the study establishes hypothesis 1-1 as follows:

Hypothesis 1-1: When a hypermarket provides more shopping related convenience, it will enhance more customers' repurchasing willingness.

2.5.2. The Impact of Product Completeness on the Customer's Willingness to Repurchase

The commodity business pattern of hypermarkets is different from that of department stores, supermarkets and convenience stores. Hypermarkets' competitive niche in commodity sales is based on the spaces of the hypermarket and the collection of daily household goods, including food, groceries and fresh products. The purpose of complete range of items is to meet the needs of consumers' one-stop shopping and can attract consumers to go shopping. Therefore, factors such as the depth, breadth and quality of items are also the main determinants of whether customers choose to shop at the store (Baker, 2002). Accordingly, this study establishes hypothesis 1-2, as follows:

Hypothesis 1-2: The less completeness of the goods of a hypermarket, the less is the customer's willingness to repurchase.

2.5.3. The Impact of the Store Atmosphere on the Customer's Willingness to Repurchase

Mitchell (2001) proposed a store atmosphere can influence the shopping behavior of consumers. Equipment, elevators, air conditioning, walkways and shopping line designs, floors, lighting and toilets can cause customers to have a special emotional response. As Baker (2002) pointed out the atmosphere of a store is a pre-emptive factor in the customer's good perception of the store, which can affect the customer's perceived value of the store's goods, and thus have a certain impact on the customer's willingness to repurchase. Therefore, this study establishes hypothesis 1-3, as follows:

Hypothesis 1-3: A hypermarket with a good store atmosphere will enhance the customer's willingness to repurchase.

2.5.4. The Influence of Good Service on the Customer's Willingness to Repurchase

Parasuraman (1985) suggested that the customer's ability to evaluate the quality of service in a company is based on his/her own expectations and cognition to compare and produce a satisfactory attitude. Fornell (1987) argued that better service compensation would enhance customer satisfaction, build good customer relationships, and prevent customers switching to other stores. Thus, the study establishes hypothesis 1-4, as follows:

Hypothesis 1-4: If a hypermarket cannot provide good service, it will generate a negative impact on the customer's willingness to repurchase.

2.5.5. The Impact of Regular Activities on Customer Repurchase

According to Baker (2002), in-store point-of-sale displays and activities can capture the customer's attention, stimulate purchases and increase sales volume, and bring customers closer to the store. Mitchell (2001) argued that when a customer is stimulated by a price promotion, in addition to assessing the promotion for his own interests, the overall store image will also be measured to ensure that loyalty to the store is generated. And in turn, a willingness to repurchase is thus established. As Grewal (1998) pointed out, when store operators adopt discount marketing activities, they can repurchase against consumers with high prices, enjoy discounts on specific goods, and thus increase the willingness of customers to repurchase. In summary, this study proposes hypothesis 1-5, as follows:

Hypothesis 1-5: The hypermarket can have a positive influence on the customer's willingness to repurchase by holding regular activities.

2.6. Research Framework

This study is intended to complement previous research on exploring the practical and theoretical issue gaps of how Taiwan's hypermarkets can establish the relationship between store image and customer repurchase intention. The concepts regarding hypermarket, store image and customer repurchase intention have been reviewed and the relevant research hypotheses have been established, while taking the age and income of the customer as the control variables, and then trying to construct a research framework suitable for measuring the image of Taiwan's hypermarkets, thus building the connection between store image and customers' willingness to repurchase. The framework is shown in Figure 1. It is expected that the follow-up empirical results can be used as a reference for the future practice of Taiwan's hypermarket operators.

3. RESULTS AND DISCUSSION

3.1. Descriptive Statistical Analysis

A total of 465 questionnaires were distributed and a total of 454 valid responses were collected, including 151 copies from Carrefour, 153 copies from Fe-amart, and 150 copies more from Costco. The sample demographic variables are organized as shown in Table 2.

According to Table 2, the results show that: female customers (57.3%) outnumber male customers (42.7%), age range is between 21 to 30 years (41.9%), with there being fewest respondents who are 50 years old (3.1%). Marriage: more respondents are unmarried (60.4%) than married (39.6%); education: university (including 3-year college) (54.0%), followed by high school (including vocational school) (24.0%) and elementary school (4.0%). Occupation: "Students" (30.6%) was the most common, followed by the service sector (11.2%). Income: the largest proportion earned less than 20,000 NT (37.0%) per month, $35,000 to $50,000NT (23.8%), followed by $20,000 to $35,000NT (22.9%). The

Figure 1. Research framework
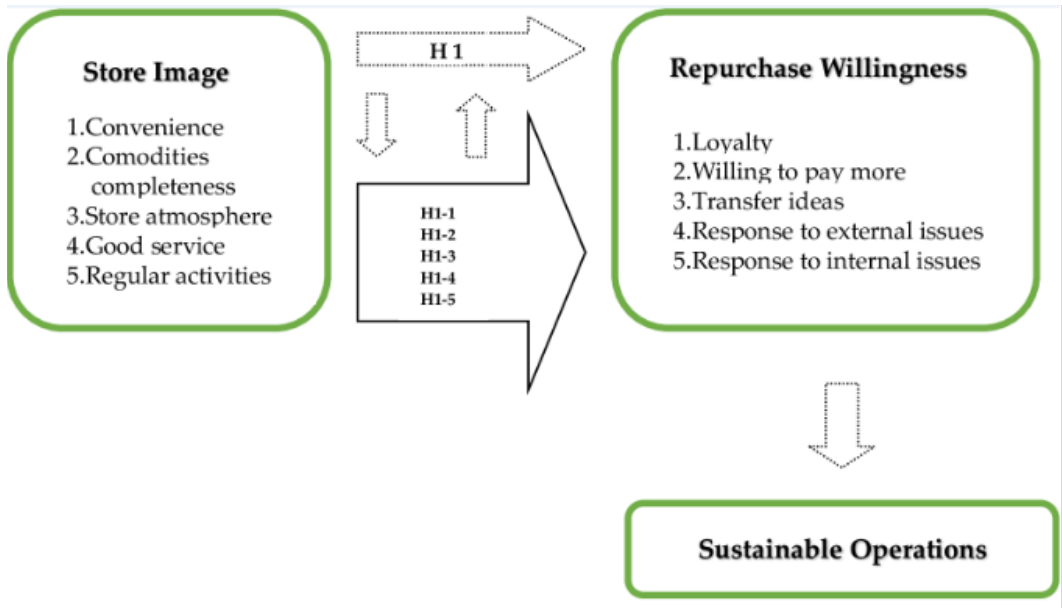
number of individuals in a household: 4 people (32.8%) is the most common family size, followed by 5 people in a family (24.2%), and followed by 3 people in a family (19.6%).

3.2. Factor Analysis, Reliability and Validity Verification

This study will focus on the store image (five constructs) and customer repurchase intention (five constructs) to carry out factor analysis, using the main component analysis and the Varimax method. The absolute value of the extraction factor loading for each factor is greater than 0.5 and the characteristic value is greater than 1. The results are shown in Table 3. In addition, there are also good cumulative explanation variations, such as the store image of 59.56 percent and the customer's willingness to repurchase is 68.99 percent, representing good structure validity.

The result of the reliability analysis of the construct factors of the store image (five constructs) and the customer's willingness to repurchase (five constructs) was carried out, and the Cronbach's alpha coefficient of all variables was shown above 0.75 (except for the response of internal problems was 0.72). This result shows that each variable in this study has a high reliability.

In terms of validity verification, the study on the store image and customer willingness to repurchase regarding the structure of the component factors of the total item correlation coefficient is greater than 0.5, showing each construct has high validity. The results of the analysis are detailed in Table 3.

3.3. Correlation Analysis

Table 4 presents the results for the average, standard deviation, Cronbach's alpha and correlation coefficients for each variable in this study. On the average analysis of the variables, it can be seen that the store image construct with convenience (3.49) and product completeness (3.49) are higher than the store atmosphere (3.45), good service (3.33), regular activities (3.24). The customer's willingness to repurchase is the highest response to internal problems (3.56), with a sequential response to external problems (3.51), loyalty (3.34), willingness to pay more (3.27), and transfer of ideas (2.98). In addition, the analysis of the standard deviation shows that all the variables except the income variable (1.39)

Table 2. Respondents demographic characteristics

Variable	Categories	Number of persons	Percentage
Gender	male	194	42.7
	female	260	57.3
Age	Under 20 years(yrs) old	56	12.3
	21~30 yrs old	190	41.9
	31~40 yrs old	133	13.4
	41~50 yrs old	61	3.1
	Above 50 yrs old	14	100
Marital status	married	180	39.6
	unmarried	274	60.4
Education	Elementary	18	4.0
	Junior high school	49	10.8
	Senior high school(vocational)	109	24.0
	University(including 3-year college)	245	54.0
	Graduate school and above	33	7.3
Household number(s)	1 person	9	2.0
	2 persons	26	5.7
	3 persons	89	19.6
	4 persons	149	32.8
	5 persons	110	24.2
	6 persons and above	69	15.2
Occupation	Military, public service, education	19	4.2
	Student	139	30.6
	Manufacture industry	47	10.4
	Finance industry	28	6.2
	Technology industry	21	4,6
	Service industry	51	11.2
	Information industry	6	1.3
	Media industry	14	3.1
	Business	24	5.3
	Medical doctor, account, lawyer	12	2.6
	Self-employment	15	3.3
	Home makers	48	10.6
	Others	30	6.6
Average monthly income (New Taiwan Dollars, NT)[1]	$20,000	168	37.0
	$20,000~$35,000	104	22.9
	$35,001~$50,000	108	23.8
	$50,001~$65,000	29	6.4
	$65,001~$80,000	29	6.4
	$80,001~100,000	14	3.1
	$100,001 above	2	0.4

Note [1]: 1 US Dollar = 29.47 NT

Table 3. Factor analysis, reliability analysis and validity analysis of each construct

Cons-truct	Variable	Measurement item	Factor loading	Eigen-value	Cumulative explanation variation	Correlation coefficient of item vs overall items	Cronbach's α
SI[1]	SI1	convenient transportation	0.754	8.665	34.659%	0.6454	0.7974
		convenient business hours	0.747			0.6654	
		ease of parking	0.648			0.5678	
		quick checkout speed	0.579			0.5078	
		many payment methods	0.599			0.5435	
	SI2	leisure entertainment equipment is attractive	0.506	2.114	43.113%	0.5418	0.8094
		overall decoration is bright and refreshed	0.708			0.6464	
		spacious and bright spaces	0.615			0.5796	
		indoor and outdoor environmental cleanness	0.685			0.6102	
		adequate public safety facilities	0.608			0.6307	
		attached catering service and convenience	0.641			0.5105	
	SI3	good service attitude for sale staff	0.548	1.855	50.533%	0.5837	0.7926
		adequate product knowledge for sale staff	0.647			0.6229	
		provide good after-sale service(i.e., refund or exchange goods)	0.752			0.5691	
		provide reasonable compensation regulations	0.771			0.6345	
	SI4	many trial-tasting activities	0.776	1.216	55.399%	0.6478	0.8407
		many promotion activities	0.791			0.6781	
		many display activities	0.825			0.7270	
		many parent-child fun activities	0.772			0.6471	
	SI5	various product-types	0.662	1.041	59.561%	0.5192	0.8154
		reasonable price	0.537			0.6044	
		fashionable products	0.662			0.5873	
		reliable product quality	0.551			0.5528	
		full range of brand name products	0.686			0.6354	
		enough display spaces and full range of products	0.623			0.6068	

Table 3. Continued

Cons-truct	Variable	Measurement item	Factor loading	Eigen-value	Cumulative explanation variation	Correlation coefficient of item vs overall items	Cronbach's α
CRW	CRW1	encourage friends and relatives to come to this store to consume,	0.777	3.694	26.385%	0.6426	0.8354
		promote the advantages of this store to others,	0.797			0.6860	
		will often come to this store to consume,	0.764			0.6260	
		when someone recommends other shops for me, then I will recommend this shop to him/her,	0.728			0.5910	
		compared to other shops, you will list this store as a higher priority.	0.776			0.6381	
	CRW2	when you encounter a problem, you will choose another store to purchase,	0.785	2.307	42.865%	0.5633	0.7641
		if you encounter a problem, you will complain to others, and	0.662			0.5565	
		if you encounter a problem, you will respond to other relevant units (e.g. Consumers Foundation).	0.728			0.6029	
	CRW3	when you encounter a problem, you will complain to the service personnel of the store,	0.824	1.856	56.124%	0.5706	0.7194
		will respond to the supervisor of the store when you encounter a problem.	0.828			0.6061	
	CRW4	Will reduce the number of purchases in this store, and	0.832	1.564	62.294%	0.6731	0.8025
		when other stores offer better prices, you will switch to other stores.	0.840			0.6736	
	CRW5	Even if the price of the store's products increases, you are willing to come to this store,	0.667	1.144	69.897%	0.6606	0.7819
		Although the price of this store is higher than other stores, but still willing to come to this store to purchase.	0.775			0.6097	

Note[1]: SI: store image, SI1: convenience, SI2: store atmosphere, SI3: good service, SI4: regular activities, SI5: commodities completeness; CRW: customer repurchase willingness, CRW1: loyalty, CRW2: response to external problems, CRW3: response to internal problems, CRW4: transfer of ideas, CRW5: willing to pay more

are greater than 1, all the other variables are less than 1. In Table 3, it shows that the Cronbach's alpha values associated with variables are greater than 0.7, which means that the variables in this study have a good internal reliability.

In Table 4, it also shows whether there are correlations between the variables, the correlation direction (positive or negative), and high or low correlation results. Overall, there is a significant positive correlation between income and age in terms of control variables. The average value of store image variables (including convenience, product completeness, store atmosphere, good service, and regular activities) was greater than 3, and the variables also showed significant positive correlation, and there was a significant positive correlation between customer loyalty, response to external problems and response to internal problems. This shows that a store that establishes its store image will indeed have a certain positive impact on customer loyalty and the response to internal and external problems, which will lead to the customer's willingness to purchase again or not.

In addition, the average value of the variables of customer repurchase (including loyalty, willingness to pay more, transfer ideas, response to external problems, and response to internal problems) was greater than 2.9, except that there was no direct relationship between loyalty and willingness to pay more, and there was a significant positive correlation between the remaining variables. As for the age and income control variables are significantly negative lying to convenience, the reason for this result may be that the higher the age and the higher the income, the higher the transfer of ideas to shop at other stores. Conversely, the lower the age and the lower the income, the lower the ideas of transferring to other stores.

Table 4. Correlation analysis of variables

Variable	average value	standard deviation	1	2	3	4	5	6	7	8	9	10	11	12
Control variable														
1. Age	2.53	0.98												
2. Income	2.53	1.39	0.452**											
Store image														
3. Convenience	3.49	0.62	-0.13**	-0.22**	(0.80)									
4. Products completeness	3.49	0.57	-0.06	-0.12*	0.65**	(0.82)								
5. Store atmosphere	3.45	0.58	-0.01	-0.05	0.57**	0.64**	(0.81)							
6. Good service	3.33	0.63	0.03	0.06	0.47**	0.60**	0.57**	(0.80)						
7. Regular activities	3.24	0.73	0.01	-0.08	0.34**	0.38**	0.33**	0.38**	(0.85)					
Willingness to repurchase														
8. Loyalty	3.34	0.61	-0.01	-0.09*	0.47**	0.57**	0.46**	0.48**	0.35**	(0.84)				
9. Willing to pay more	3.27	0.62	-0.03	0.07	0.04	0.02	0.04	0.19**	0.13**	0.09	(0.78)			
10. Transfer of ideas	2.98	0.85	0.26**	0.26**	-0.08	0.07	0.13**	0.26**	0.20**	0.19**	0.21**	(0.80)		
11. Response to external problems	3.51	0.62	-0.07	-0.06	0.23**	0.22**	0.23**	0.20**	0.16**	0.17**	0.38**	0.11*	(0.75)	
12. Response to internal problems	3.56	0.75	0.09	0.02	0.21**	0.23**	0.24**	0.25**	0.15**	0.19**	0.21**	0.18**	0.53**	(0.72)

Notes: n=454;**$P<0.01$,*$P<0.05$;in parentheses() is Cronbach's α value

In summary, although the correlation analysis can generally judge the results of this study, but the more reliable findings need to be further verified. Therefore, the multiple regression analysis was used to verify the various hypotheses of this study, as described in Table 4.

3.4. The Effect of the Control Variables on the Interference Effect of the Store Image and the Customer's Willingness to Repurchase

The influence of the two control variables of age and income has an interference effect between the store image and the customer's willingness to repurchase. This study uses the two-stage cluster analysis, while the first stage uses the Ward's method. The condensing coefficient and coefficient increment rate are also derived, and the largest coefficient increment rate is used as the basis for the number of groups. In order to calculate the center of gravity of each group, the second phase uses the K-means method, which regroups to confirm the number of customers per group. Finally, the analysis of variance of the store image, customer age and income of the four clusters analysis, and respectively, each cluster is named (see Table 5 note 2). Through the results of the two-way analysis of variance (see Table 5), it can be found that in terms of loyalty, the overall effect, the store image effect, the customer's age and income main effect and interaction effect have reached a significant level. In terms of willing to pay more, response to external problems, and response to internal problems have not reached a significant level. In terms of transfer ideas, in the customer's age and income main effect and interaction effect have reached a significant level.

In Table 5, it can be found that customer age and income affect the customer's willingness to repurchase in the interaction of five constructs. High-age and high-income customer groups on the establishment of the store image is more positive, because its customer repurchase intention of almost all constructs have a positive impact. The establishment of the image of the store is more negative in the low-age and low-income customer groups, because the repurchase of various constructs by its customers is almost negative. In addition, looking at the five customers repurchase intention constructs, it can be summed up that the hypermarkets in the establishment of its store image should be for the high-age and high-income customer groups to adopt a service-oriented strategy. It can enhance their willingness to repurchase. In contrast, for the low-age and low-income customer groups, hypermarkets have to adopt convenience, completeness of products, store atmosphere, and regular activities strategies. This will minimize the influence of negative impact on customer repurchase willingness.

Table 5. The effect of interference between the age and income of customers and the willingness to repurchase

Store image		Willingness of repurchase									
		Loyalty a,b,c,d		Willing to pay more		Transfer ideas c,d		Response to external problems		Response to internal problems	
		Cluster1	Cluster2	Cluster1	Cluster2	Cluster1	Cluster2	Cluster1	Cluster2	Cluster1	Cluster2
Age	cluster1	-1.292 (n=87)	0.201 (n=121)	0.482 (n=87)	0.052 (n=121)	-0.071 (n=87)	0.278 (n=121)	0.827 (n=87)	0.212 (n=121)	0.117 (n=87)	0.428 (n=121)
	cluster2	-0.403 (n=114)	0.675 (n=132)	-0.142 (n=114)	-0.227 (n=132)	-0.368 (n=114)	-0.075 (n=132)	-0.162 (n=114)	-0.352 (n=132)	-0.732 (n=114)	0.527 (n=132)
Income	cluster1	0.042 (n=74)	0.654 (n=108)	0.252 (n=74)	0.752 (n=108)	-0.211 (n=74)	0.562 (n=108)	0.229 (n=74)	0.524 (n=108)	0.452 (n=74)	0.072 (n=108)
	cluster2	-0.276 (n=125)	-0.228 (n=147)	-0.129 (n=125)	-0.634 (n=147)	-0.262 (n=125)	-0.426 (n=147)	-0.446 (n=125)	-0.323 (n=147)	-0.541 (n=125)	0.312 (n=147)

Note: (1) The numbers in the table represent the average of the various constructs of the customer's willingness to repurchase; n in parentheses represents the number of samples for each cluster. (2) The significance of each cluster (store image cluster 1: pay attention to convenience, complete goods, atmosphere and activity orientation, cluster 2: pay attention to service orientation; income cluster 1: high-income customers with income above $35,000, cluster 2: low-income customers with incomes below $35,000. (3) The two-way analysis of variance is significant (a: significant on overall effect; b: significant on store image main effect; c: significant on customer age and income main effect; d: significant on interaction effect)

3.5. Hypothesis Testing

Through multiple regression analysis, in Table 6, one can find that control variables (the age and income) show a significant positive correlation between the store image and the transfer of ideas (regression coefficient 0.307 and 0.219). As for customer loyalty, willing to pay more, response to external problems and response to internal problems, there is no significant correlation.

If one looks at the store image of the customer's intention to repurchase of the main effect of the verification model, first of all, from the convenience of the store to the customer's willingness to repurchase, one can find that the more the store provides convenience of shopping, the more customer loyalty is enhanced (regression factor 0.111). However, though a store can offer more convenience, it may still be unable to increase the customer's willingness to pay more, to reduce the customer's response to external problems, and to reduce the customer's willingness to repurchase (regression factor of 0.007, 0.068, 0.020 respectively). It is also worth noting that the more convenience the store offers, the lower customers' desire to shift their patronage to another store (regression factor -1.75). It can be found that the study hypothesis 1-1 is partially established.

Secondly, from the store's product integrity to the customer's willingness to repurchase each regression model, one can find that the more the store provides a complete lineup of products, the more customer loyalty is enhanced (regression factor 0.276). However, no matter how complete the product range provided by the store, it is still not possible to increase the customer's willingness to pay more, reduce the customer's response to external problems and reduce the customer's response to internal problems (regression factor -0.055, 0.012, 0.021). A more complete lineup of products is not able to reduce the customer's transfer of ideas (regression factor -0.014). In other words, even if the hypermarket offers a wide range of goods, it is still not possible to increase the likelihood of customers repurchase when it raises the price of the product, and not possible to reduce the likelihood that customers will switch to other stores to purchase and complain to the store's service staff. It can be found that the study hypothesis 1-2 is partially established.

From the store atmosphere to the customer's willingness to repurchase, in each regression model, it can be found that although a store has a good store atmosphere, it cannot significantly enhance customer loyalty (regression factor 0.065), cannot significantly increase the customer willingness to pay more (regression factor -0.023), and cannot significantly reduce the customer's transfer of ideas (regression coefficient 0.050), or reduce customer response to external problems (regression coefficient 0.052), or reduce customer response to internal problems (regression coefficient 0.043). It shows that the study hypothesis 1-3 has been proven to be invalid.

As for how a store's good service affects the customer's willingness to repurchase, it can be found that a store can provide good service can improve customers' loyalty (regression factor 0.190)

Table 6. The main effects of the store image on the customer's willingness to repurchase

Items	The regression value of store image to loyalty	The regression value of store image to the willingness to pay more	The regression value of store image to transfer of ideas	The regression value of store image to the response to external problems	The regression value of store image to the response to internal problems
Control variable	-0.048	-0.098	0.307**	-0.106	0.155
Age income	-0.189	0.089	0.219**	-0.045	-0.023
Store image convenience	0.111*	0.007	-1.750**	0.068	0.020
Products completeness	0.276**	-0.055	-0.014	0.012	0.021
Store atmosphere	0.065	-0.023	0.050	0.052	0.043
Good service	0.190**	0.136**	0.208**	0.042*	0.075*
Regular activities	0.108*	0.040	0.095**	0.038	0.020
F-value	53.885**	5.819**	15.825**	7.297**	7.957**
R²	0.376	0.061	0.150	0.075	0.082
adjusted R²	0.369	0.051	0.141	0.065	0.071

Note: All numbers represent the value of regression coefficient except F-values, R, and ΔR; (2)**$P<0.01$, *$P<0.05$

and improve the customer willingness to pay more (regression factor 0.136). It also can reduce the customer's transfer of ideas (regression factor 0.208), response to external problems (regression factor 0.042) and response to internal problems of customers (regression factor 0.075). It is found that the more a hypermarket can provide good service to enhance customer loyalty, the more positive effect there is, and therefore in the case of increasing the price of products, customers still have the possibility of repurchase. Good service at a hypermarket can also effectively reduce the likelihood that customers will switch to a competitor store and enhance customer satisfaction at how the store handle his/her complains, thereby increasing the willingness to repurchase. Thus, the study hypothesis 1-4 is all established.

Regarding the store's regular activities on the customer's willingness to repurchase, it can be found that the more the store can organize its regular activities, the more it can enhance customer loyalty (regression factor 0.108), and effectively change the mind of the customer (regression factor 0.095). However, it is not possible to significantly increase the customer's willingness to pay more (regression factor 0.040), nor to significantly reduce the customer's response to external problems (regression factor 0.038) or to reduce the customer's response to internal problems (regression factor 0.020). Thus, the study hypothesis 1-5 is partial established.

To sum up the verification results of the hypothesis 1-1 to 1-5, it is shown that hypothesis 1 is partially true.

4. CONCLUSION AND RECOMMENDATIONS

4.1. Research Conclusions and Management Implications

From Table 6, the results of the verification model show that the more a hypermarket provides shopping convenience, complete products, good service and regular activities, the more it can enhance customer loyalty. The store atmosphere does not have a significant impact on enhancing customer loyalty. The result means that hypermarket customers pay less attention to the store's physical and software equipment, but pay more attention to convenience, product completeness, good service, and regular activities. According to the results of this study, the good service a store provides is the only positive factor that encourages customers to be willing to pay more, while convenience, product integrity, store atmosphere and regular activities have no significant impact. This result means that a hypermarket can provide good service (e.g. service personnel in sales knowledge, attitude, and handling of customer complaints) to its benefit. In terms of reducing the customers' desire to shift to other stores, the results of this study show that the more convenience, good service and regular activities provided by hypermarkets, the more effective it is in reducing the number of times customers turn to other hypermarkets. However, it is still not possible to significantly reduce the customer's response to external and internal problems, despite a store provides convenience, good product integrity, and good store atmosphere. Only a store that provides good service will have a significant impact on customers' response to external and internal problems. This means that a hypermarket on-site customer service staff will be a key factor in forming customer decisions to repurchase.

4.2. Academic Contribution

By reviewing various store image and willingness for repurchasing related articles, store image constructs and constructs of willingness for repurchasing were examined and regrouped, which were analyzed for finding suitable constructs, variables, and question items for evaluating Taiwan's consumers' behavior and could be used in other nations or regions. An exploratory analysis was performed, while factor loading data was recorded and was analyzed for establishing a questionnaire which could be used for a coming theoretical or empirical study. The main effects associated with the constructs of store image and willingness for repurchasing were studied and several hypotheses were tested. Even though some constructs or question items did not reach a significant level for

specific issues, in the future, a time-profile study may be performed to provide a timely response from local customers for improving store image of a hypermarket and thus enhance the willingness for repurchasing of customers. The effort of establishing store image of hypermarkets was examined and the effects of improving customers' willingness for repurchasing were studied in various aspects, all of which could provide a profound background for further studies.

4.3. Recommendations to Enterprises

The main effects on repurchasing of customers through the image of the store were checked, and this study puts forward the following relevant recommendations for the management strategies of Taiwan's hypermarket operators.

4.3.1. Make Convenience More Flexible

To enhance customer loyalty and reduce their transferring ideas to shop at other stores, and thus enhance their willingness to repurchase, it is suggested that in the future, when setting up new locations, the operators of hypermarkets should choose to set up locations in the heart of populated cities or townships separate from their competitors, taking into account space to create a considerable number of parking spaces. The convenience of location and parking can save how much time customers spend on round-trip travel. Having parking will likely increase customers' willingness to shop at those locations. Secondly, in terms of business hours which could be extended in the weekly holidays and many other traditional holidays, so that customers working in different industries are easier to select a convenient shopping time. In terms of checkout speed, in addition to the traditional cash and credit card checkout counters, additional cash-only, 10-or-fewer-items exclusive checkout counters can be added to improve checkout efficiency, to avoid complaints from some customers who wait in line for check-out. In addition, in terms of payment, in addition to accepting cash, credit cards, gift coupon and other payment methods, mobile payment apps, such as Line-pay, Apple Pay and other app payment methods can also be considered as convenient payment tools (hypothesis 1-1 testing).

4.3.2. Refine the Service Quality

For the operators of service-oriented Taiwan hypermarkets, how to provide good service to customers is an important factor in enhancing their willingness to repurchase. It is suggested that the hypermarket operators may set up an annual education and training budget for service personnel in order to enhance the proficiency of sales knowledge, service attitude and handling customer complaints, so as to enhance the customer's good impression of the hypermarkets. Due to a wide range of goods in a hypermarket, only through a continuous commodity knowledge training to professional and part-time service personnel will be enable service personnel to respond adequately to customers on the sale spot for the commodity-related issues. It can produce a sense of trust in service personnel, and thus enhance customer loyalty and the quality of handling customer complaints. In addition, service personnel, enhance customers impression through etiquette, communication and other related training, and therefore reduce the chance that customers transfer to other shops, thus having a positive effect on customers' willingness to repurchase (hypothesis 1-4 testing).

4.3.3. Partner With Manufacturers to Jointly Organize Diversified Activities

It is suggested that the hypermarkets can occasionally work with upstream manufacturers to organize promotional activities, host taste tests, and family activities. These activities will not only enhance customer awareness of specific product brands, but also through price-discount promotion, enhance the loyalty of a specific customer group and reduce their transfer ideas. In addition, through a more dynamic and customer-attracting display of taste-testing, and family activities, hypermarkets can promote a more lively atmosphere of the store, to bring the customers closer, and thus more ably enhance the loyalty of a particular customer group and reduce their transfer of ideas (hypothesis 1-5 testing).

REFERENCES

Baker, J. A., Parasuraman, A., Grewal, D., & Voss, G. B. (2002). The influence of multiple store environment cues on perceived merchandise value and patronage intentions. *Journal of Marketing*, *66*(2), 120–141. doi:10.1509/jmkg.66.2.120.18470

Berman, B., & Evans, J. R. (1978). *Retail Management: A strategic approach*. Macmillan.

Business Bureau, Ministry of Economy. (2002). *Logistics Industry Survey Report*. Ministry of Economy.

Chen, H. (2002). *The research of the value positioning and relationship combination strategy of the hypermarket* (Master Thesis). Graduate School of Business Administration, Donghua University.

Ding, X., & Chen, Z. (2002). The Study on content analysis of developing store image determinants. *Management Review*, *21*, 85–113.

Engel, J. F., Blackwell, R. D., & Miniard, P. W. (2001). *Consumer Behavior* (8th ed.). Harcourtv Broce Joranovic College Publisher: The Dryden press.

Fornell, C., & Wernerfelt, B. (1987). Defensive marketing strategy by consumer complaint management: A theoretical analysis. *Journal of Marketing*, *24*(Nov), 337–346. doi:10.1177/002224378702400401

Grewal, D. R., Krishnan, R., Baker, J., & Borin, N. (1998). The effect of store name, brand name, and price discount on consumers' evaluations and purchase intensions. *Journal of Retailing*, *74*(Fall), 331–352. doi:10.1016/S0022-4359(99)80099-2

Huang, C. (2004). *The research on the operation and profit model of Taiwan's hypermarkets–an empirical study of Carrefour and Rt-Mart* (Master Thesis). Graduated School of Information Management, Yishou University.

Huang, H. (2003). *Service quality and satisfaction study on hypermarkets–an empirical study of great Taipei metropolitan area* (Master Thesis). Graduate School of Management, Yuanzhi University.

Huang, J. (2003). *Research on the relationship between quality of service, customer satisfaction and loyalty of hypermarkets–an empirical study of Rt-Mart hypermarket in great Taipei area* (Master Thesis). Graduate School of Business Management, Datong University.

Kolter, P., Ang, S. H., Leong, S. M., & Tan, C. T. (1999). *Marketing Management: An Asian Perspective* (2nd ed.). Prentice Hall.

Kunkel, J. H., & Berry, L. L. (1968). A behavioral conception of retail image. *Journal of Marketing*, *32*(4_part_1), 21–27. doi:10.1177/002224296803200405

Lessing, V. P. (1993). Consumer store images and store loyalties. *Journal of Marketing*, *38*, 71–74.

Li, Q. (2004). *The research on the brand type, the influence of the store name on the brand evaluation for the brand name own by hypermarkets-the study of the product category, the effect of the store image interference* (Master Thesis). Graduated School of Management, Yuanzhi University.

Lindquist, J. D. (1974). Meaning of image: A survey of empirical and hypothetical evidence. *Journal of Retailing*, *50*(4), 29–38.

Martineau, P. (1958). The personality of retail store. *Harvard Business Review*, *36*, 47–55.

Mitchell, V. W. (2001). Re-conceptualing consumer store image processing using perceived risk. *Journal of Business Research*, *54*(2), 167–172. doi:10.1016/S0148-2963(99)00086-7

Ong, Y. (1996). *A comparative study of the image and purchase decision-making of the department store and hypermarkets in Kaohsiung City* (Master Thesis). Graduate School of International Trade, Tamkang University.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, *49*(Fall), 41–50. doi:10.1177/002224298504900403

Rossiter, J. R. (2003). How to construct a test of scientific knowledge in consumer behavior. *The Journal of Consumer Research*, *30*(2), 305–310. doi:10.1086/376799

Schiffman, L. G., & Kanuk, L. L. (1991). *Consumer Behavior* (2nd ed.). Prentice-Hall.

Sheth, J. N. (1983). *An integrative theory of patronage preference and behavior, patronage behavior and retail management*. North-Holland.

Shuie, Y. (1995). *Study on the structure of shopping center market analysis: an empirical study of the Taipei New Cultural Center* (Master Thesis). Graduate School of Business Administration, Zongxin University.

Zeithaml, V., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, *60*(2), 31–46. doi:10.1177/002224299606000203

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A mean-end model and synthesis of evidence. *Journal of Marketing*, *52*(July), 2–22. doi:10.1177/002224298805200302

Zhang, G. (1992). *The research on the marketing strategy of hypermarkets* (Master Thesis). Graduate School of Business Administration, Tayei University.

Zhang, J. (2001). *Consumer impression of hypermarkets regarding store image–an empirical study of Taoyuan area* (Master Thesis). Graduate School of Interior Design, Zounyaung University.

Zhang, Y. (2004). *Study on the relationship between service quality and post-purchase behavior intention-an empirical study of the hypermarkets in Tainan area* (Master Thesis). Graduate School of Industrial Management, Nantai University of Science and Technology.

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