

WHAT INFLUENCES REPEAT PURCHASES IN MALLS? :
A DYADIC ANALYSIS OF CUSTOMER RELATIONSHIP VARIABLES
IN SHARJAH, UAE

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Abstract

This study explores the relationship among brand equity, brand relationship and repurchase behaviors. The study uses brand equity as an independent variable to investigate the relationship between brand relationships and repurchase behaviors, taking the consumers of the top three chain store supermarkets in sharjah as the objects of empirical analysis. The major findings of this study include: consumer's social and economic backgrounds will influence their repurchase intentions on chain store supermarkets; the higher the brand image of a chain store supermarket is, the higher the consumer's repurchase intention will be; the higher the consumer perceived quality and perceived value of chain store supermarket are, the higher the repurchase intention will be. Finally, this study proposes managerial implications and discussions for the purpose of being taken as references by operators in the industry for their future operation directions and strategies.

Key words: brand equity, brand relationship, repurchase behaviors, repurchase intention

Introduction

Due to the increasingly changing and intensifying competitive environment for supermarkets, along with the springing up of large hypermarkets and small convenience stores like mushrooms, traditional supermarkets have fallen into bleak operation because of a saturated market, some even end up with closing down. The establishment of chain store supermarkets allows consumers to acquire more and more brand knowledge of chain store supermarket brands, the emergence of which has began to gradually influence public consumption patterns. Formulators of supermarket marketing policies should develop marketing strategies from the consumer's point of view, and make efforts to meet consumer demands so as to promote their brand image in consumers' minds. By promoting brand image, consumer's brand relationship will be indirectly enhanced, then final brand equity will be affected to increase enterprise benefits. Perceived quality may influence the relationship between customer and brand as well as customer repurchase behaviors. The research by Roberts et al. (2003) verifies that perceived quality influences post-purchase behaviors indirectly by influencing relationships. Zeithaml et al. (1996) think overall perceived quality has a significant relationship with customer behavioral intentions.

Whereas brand image is increasingly receiving more concerns, relevant domestic and overseas studies have made no research on the relationship between the variable and the impact of brand equity on the entire model, which strikes us as being somewhat biased. From all the above, this study tries, from customer's angle, to examine whether the brand awareness, brand image, perceived quality and brand relationship of customers of chain store supermarkets will have impact on repurchase intentions, with a hope of offering operators in the industry some reference when developing future market strategies.

Literature review

Brand equity

According to the definition made by the American Marketing Association (AMA), "brand is a name, term, sign, symbol, or design, or a combination of them which is intended to identify the goods or services of one seller or a group of sellers and to differentiate them from those of competitors". Because brand will form value and effect in consumer minds along with products or services, the positive attitude held in customer minds will create a brand value, as will the concept of consumer-based brand equity and the presentation of its value be reflected by consumer attitudes or behaviors.

Aaker (1996) proposes brand equity consists of five constructs: brand loyalty, brand

awareness, perceived quality/leadership, brand associations/differentiation and market behavior. Both Aaker (1996) and Keller (1993, 2001) use brand association to explain brand image, thus brand awareness and brand image belong to the brand concepts that are connected with consumer memories, i.e. Brand awareness comes into being first, then after brand image forms. The customer-based brand equity model developed by Keller (2001) indicates that brand character is connected to brand image and brand character can facilitate the achievement of proper brand identification, i.e. Brand performance and brand image will be developed. The development of a brand is to establish powerful, pleasant and unique brand association from the brand awareness with deep and broad impacts. Yoo and Donthu (2001) revise the brand equity proposed by Keller (1993) and Aaker (1996), proposing a customer-based brand equity measurement scale. In many empirical studies, brand awareness is always a principal component of brand equity.

Brand relationship

Fournier (1998) initially proposes the concept of brand relationship, the definition is “a relation-oriented opinion, which is positive, voluntarily maintained, lasting and with strong emotional colors, held by people on the interaction between consumers and brands”. Brand relationship consists of the following six constructs: love and passion,

self connection, interdependence, commitment, intimacy and brand partner quality. In his opinion, these six relationships will influence customer recommendation intentions, premium price tolerance, preference of one brand and depreciation of other brands etc.

Duncan and Moriarty (1999) as well as Fourier (1998), introduce many related subjects besides brand while studying brand relationship assessments, thus extending brand relationships into four relationships including customer-brand, customer-product, customer-consumer, customer-marketer. They thought that there were five phases in the formation process of brand relationships, which were cognition, agreement, connection, community and support. The study takes the contact process between customer and brand as the main clue. During the contact process, customers gradually form an attitude toward a brand and take action. Notably, this model not only involves customer-brand relationship, but also involves the communication between a customer and other customers.

Blackston's (1995) brand relationship model can analyze the inner relationship between brand equity and brand relationship. In the model, qualitative brand equity can be divided into brand image and brand attitude. Among them, brand image is the objective aspect of brand while brand attitude is the subjective aspect. The

interaction between subjective and objective brand forms brand relationship. Biel's (1992) brand concept model explains the relationships among brand relationship, brand image and customer. Brand relationship is the relationship among customer, brand skill (i.e. Brand's functional quality) and brand individuality. This model points out the key to establishing brand relationship is to promote high quality brand skill and build clear brand individuality.

Repurchase behaviors

From reviewing previous literature, the factors that influence customer repurchase intentions include in general: customer satisfaction, brand character significance, perceived quality, customer population statistics character and relative price etc.

From the aspect of the impact of customer satisfaction on repurchase intention, oliver (2010) thinks customer satisfaction is the concentrated performance of customer expectation on quality, the perception of actual quality, the perceived service quality, the perception of brand image and the perception of cost performance. The study of andreassen and lindestad (1998) point out that when customer perception doesn't achieve the expected standard, customer satisfaction is relatively low and the customer repurchase intention is also relatively low. Bruhn and grund (2000) consider customers to

have certain expectations on the level that the actual quality and service quality of a certain brand product can achieve before purchasing and using the product. When the perception is higher than the expected level, customer satisfaction is relatively high and customer repurchase intention is also relatively high.

From the aspect of the impact of brand character significance on repurchase intention, murgulets et al. (2001) consider brand character significance to be a major measuring variable of brand image. Brand character significance has direct positive influence on customer repurchase intention and has indirect positive influence on customer repurchase intention through customer expectation, perception and satisfaction.

From the aspect of the impact of perceived service quality on repurchase intention, studies reveal, perceived service quality has positive impact on customer satisfaction and customer behavioral intention (woodside et al., 1989); besides, the studies show from the angle of the service personnel's attitude (drew et al., 2001) and the quantity of the service network (kristensen et al., 2000), perceived service quality has a positive impact on customer behavioral intention.

From the aspect of the impact of customer population statistics character on repurchase intention, the academia has always been in

dispute on whether population statistics character will influence customer behavior. The study of kalyanam and putler (1997) indicates that population statistics variables have weak or insignificant impact on customer behavioral intention. The study of mittal and kamakura (2001) points out, customer population statistics character has direct impact on customer repurchase intention. To the same satisfaction degree, female customers have higher repurchase intention than male customers on products or services of certain industries (e.g. Automobile industry). Similarly customers with higher educational levels have lower repurchase intention to the same satisfaction degree; and customers over 60 have higher repurchase intention to same satisfaction degree.

From the aspect of the impact of brand relative price on repurchase intention, brand relative price will have a certain impact on customer repurchase intention because different brands have a different pricing strategy. The study of jones et al. (2000) indicate, the competitor's price strategy will also impact customer repurchase intention of the brand. When competitors offer a large marginal discount or price deduction, the customer's change barrier lowers and as a result the repurchase intention changes.

In addition, other scholars have made relevant studies in the field of repurchase intention. The study of gruen et al. (2006)

reveals, the communication among customers has significant impact on customer perceived value and customer recommended products, while communication among customers has no significant impact on customer repurchase intention. Brady and robertson (2001) start from a trans-cultural angle to study whether the relationship between service quality and customer behavior will change along with the change of culture.

The impact of brand equity on brand relationship and repurchase behavior

Some scholars think brand equity has impact on both the formation of brand relationship and customers repurchase behaviors. Cobb-Walgren et al. (1995) study the impact of brand equity on customer attitude, preference and purchase intention. Lu and Lin (2002) analyze customer purchasing behaviors in internet media under the structure of "belief-attitude-behavior tendency". The cognition part of "belief-attitude-behavior tendency" relates to the cognition of brand equity, these include three parts: the cognition of products and service content, the cognition of the servicescape in which products and services are provided and the cognition of hardware facilities for providing products and services. These three factors will directly impact the customer attitude toward products and services,

meanwhile customer cognition and attitude will affect repurchase behaviors.

Also, some scholars study the impact of brand image and association on customer choice, preference and purchase tendency. Chung (2002) studies the impact of brand image and country of origin on brand evaluation, purchase attitude and purchase intention. Conclusions show, in most product categories, brand image is more important than country of origin. Ataman and ulengin (2003) think brand image is the major reason that customers make choices from different brands. Hsieh et al. (2004) consider the corporate image and country of origin have significant impact on customer choice, while local culture features and traditions can adjust the effect of product image.

Some scholars think perceived quality will influence the relationship between customers and brands as well as customer repurchase behaviors. Cronin et al. (2000) consider service contact, service environment and product quality will influence the overall customer perceived service quality; while the level of perceived quality will influence customer satisfaction and customer value; perceived quality, customer satisfaction, customer value will have impact on customer post-purchase behaviors. The study of Olsen (2002) verifies that satisfaction is the mediator

between perceived quality and repurchase intention.

Other scholars study the diversity impact of service quality on brand relationship and customer repurchase behaviors in different trades. Taylor and baker (1994) explore the relationship among perceived service quality, customer satisfaction judgment and purchase intention in the industries such as communications, traffic, entertainment and medical care. They point out, when customer satisfaction is at a high level, there exists a significant positive correlation between service quality and purchase intention. Baker and Crompton (2000) make an analysis on tourism, indicating customer perceived quality is not in significant correlation with complaining behaviors, but is in significant positive correlation with repurchase intention, customer loyalty and willingness to pay premium price. Sivadas and Baker-Prewitt (2000) receive different conclusions in a study of the department store industry: service quality influences the customer attitude orientation and satisfaction of the department store industry, while satisfaction has impact on attitude orientation, repurchase and recommendation but no direct impact on department store loyalty.

Scholars all consider the previous studies on brand loyal ignore the research of brand-customer relationship

(delgado-ballester and munuera-alemán, 2001, Fournier, 1998, Garbarino and Johnson, 1999). Oliver (1980) suggests that high level satisfaction can increase customer preference on a brand and then to enhance the repurchase intention of the brand. Bearden and teal (1983) discover in a study of automobile services, attitude plays a mediator role on the impact of customer satisfaction on purchase intention. Cronin and taylor (1992) find out in a study of service industries such as banking, catering and others; customer satisfaction is one of the important variables that influence repurchase intention. Jones and sasser (1995) consider the relationship between customer satisfaction and customer repurchase behaviors will be influenced by the competitive condition in the industry. Spreng and mackoy (1996) think satisfaction has significant impact on brand attitude and brand loyalty. Fournier (1998) studies the impact of six kinds of customer-brand relationships on customer repurchase intention, habitual purchase and the willingness of word communication. Roberts et al. (2003) analyze the impact of customer-enterprise and customer-brand relationship on customer behaviors, suggesting the services provided by companies in the service industry influence the formation of relationship to some extent.

The study of chaudhuri and holbrook (2002) discover, an active emotional

response against a brand has a relatively high positive correlation with brand loyalty and will reduce the customer sensitivity on price. Ataman and ulengin (2003) consider customer-brand relationship to be the key factor that influences customer acceptance and recognition degree of a brand. Erdem and swait (2004) study the impact of brand trustworthiness and brand expertise on customer choice in different product categories, proving brand trustworthiness has greater impact on customers.

Research design and hypothesis

From the above dissertation, this study discovers there exists certain connections among brand awareness; brand image, perceived quality, brand relationship, customer's social and economic background, and customer repurchase behaviors of brand equity. Thus this study proposes this conceptual structure for a comprehensive exploration of the relationships among constructs. The research structure of this study is shown in figure 1. Research hypotheses are indicated in table 8.

Operational definition and evaluation questions of research variables

The questionnaire design for this study is a concealed, structural questionnaire that requires basic personal data, while other parts are completed according to likert's 5-degree scale. The questionnaire contents include six parts: "brand awareness", "brand

image”, “perceived quality”, “brand relationship”, “repurchase intention” and “customer’s demographic”. The following is a detailed description of the operability definition of research variables and the development of the scale:

(1) Brand awareness: this study hereby defines brand awareness as the evidence that will be considered by consumers in priority among known product categories. Measurement questions take the brand awareness scale developed by Keller (1993) to judge consumers’ degree of awareness of the brand.

(2) Brand image: this study takes the literature of Biel (1992), Kim and Kim (2004), and Iov and Iamb (2000) as references and makes revisions for the measurement perspective of this study to judge the consumer recognition degree of brand image.

(3) perceived quality: this study defines the so-called “perceived quality” as consumers’ overall perception level of a certain chain store supermarket. Thus the perceived quality item takes literature of Kim and Kim (2004), as well as Yoo et al. (2000), as references to revise the measurement dimensions of this study to judge the extent of customer perception on chain store supermarket quality.

(4) brand relationship: this study mainly takes opinions of Crosby et al. (1990), Delgado-Ballester et al. (2003) and Liljander

and Roos (2002) as references for judging the extent of brand relationship between customer and chain store supermarket.

(5) Repurchase intention: “repurchase intention” means a customer adopts certain nastic responses to subject matter after making overall product evaluation and his future intentions. This study takes literature of Zeithaml et al. (1996) as a reference and make some revisions for the measurement dimensions of this study, including “willingness to make the choice of purchase”, “worthiness to purchase”, “recommendation for other relatives and friends to purchase” to test the subjects’ repurchase intentions on chain store supermarkets.

(6) Consumer’s demographic background: according to relevant studies, fundamental personal attributes of chain store supermarket customers are concluded to consist of gender, age, profession, educational level, monthly income and family size etc. (Richardson et al., 1996).

Sampling method and questionnaire design

This study takes consumers who have ever purchased in three big chain store supermarkets in Sharjah (Wellcome, Sharjah Fresh Supermarket and Yumaowu) as the subjects for questionnaire surveys. The sampling method of this study applies the nonrandom sampling – “convenience sampling” to collect the data required by the

questionnaire. The execution of sampling was done by evenly distributing 200 questionnaires at the three supermarkets from January to March 2010. Surveyors interviewed the subjects face to face at the entrances or eating area of supermarkets; subjects answered questions on site. Questionnaires were reviewed for any missing information to ensure valid responses. A total of 600 questionnaires were distributed, after taking out invalid ones, 468 valid responses were obtained, with a valid response rate of 78%.

RESULTS

Sampling structure analysis

According to the results of questionnaire responses, regarding gender, the proportion of female (54.2%) is a little higher than that of male (45.8%) responses. Age distribution falls mainly between the 31-40 (38.5%), 21-30 (24.6%), 41-50 (16.4%) age ranges. The results reveal the consumption objects of chain store supermarkets cover many age groups, among which, the rate of consumers between 21 and 40 has the highest ratio. In educational levels, those with university (junior college) degrees take a large part (50.2%), indicating the educational levels of subjects are generally high. In profession, people in service industries and students account for 36.8% and 22.8% respectively, meaning people in service industries and students have higher consumption intention in chain store supermarkets than other

professions. In monthly income, many subjects have a monthly income of nt\$ 20,001-35,000 (40.6% (1us\$=nt\$33)), than are those with less than nt\$20,000 (22.4%). In times of purchasing in chain store supermarkets within the past month, the most frequent is 4-7 times (62.4%), then less than 3 times (28.8%). Purchasing times of more than 8 is in the minority (8.8%), indicating supermarket shopping has become a necessary daily activity for most people. (mike's note...this doesn't make sense, surely this indicates that very few people go to a supermarket daily)

Reliability and validity analysis of variables

Reliability test

This study applies the internal consistency method to test the reliability of the questionnaire, measuring by cronbach's α and composite reliability. This is shown in table 1, the cronbach's α of every dimension in the questionnaire is between 0.91 and 0.75. According to nunnally (1978), the suggested value should be over 0.7. The reliabilities of the questionnaire of this study are within the appropriate and acceptable scope.

Validity test

This study employs confirmatory factor analysis (cfa) to carry out a convergent validity test on the questionnaire. According to suggestions of fornell and larcker (1981), a good convergent validity means all factor

loadings are bigger than 0.5, significance ($p < 0.001$) and mean extraction are bigger than 0.5. The analysis outcome of table 1 shows standardized item loading is significant, all variables can be interpreted by the constructs significantly and the mean extraction variance is bigger than 0.5 (i.e. All variables converge at that construct) meaning items measured all converge at corresponding construct, so there is convergent validity to some extent.

Factor analysis

This study makes use of the kaiser-meyer-olkin (kmo) and bartlett's sphericity test sampling adequacy to measure and examine whether constructs of this study are fit for factor analysis. The KMO values of constructs include brand awareness, brand reputation, product & service image, user image, corporate image, technical quality, functional quality, brand relationship, customer repurchase behavior. These are 0.846, 0.865, 0.751, 0.814, 0.826, 0.808, 0.786, 0.815 and 0.795 respectively. Meanwhile, bartlett's sphericity test values all achieve significant levels, indicating there exist common factors in parent population's relevant matrixes, as is suitable for factor analysis.

Correlation analysis

Analysis results are indicated in table 2. The constructs of brand equity are all significantly correlated when the emotional relationship between customer and brand is

under the significance level of 0.05 and the correlations are relatively high. Among them, the correlation between functional quality, brand reputation, product & service image and brand relationship is higher, this indicates the chain store supermarkets with a good reputation and high quality service are more able to establish stable emotional relationships with customers. In addition, brand relationship and customer repurchase behaviors show significant correlation under the significance level of 0.05. This means once customers establish a good relationship with the brand of a chain store supermarket, they will most probably choose the brand again the next time they shop. Finally, all factors of brand equity are in significant correlation with customer repurchase behaviors under the significance level of 0.05. According to Pearson's correlation coefficient, the extent of correlation between all factors and repurchase behaviors can be ordered from big to small as: functional quality, brand reputation, product and service image, user image, brand awareness, corporate image and technical quality.

Secondly, table 2 also shows the significant correlation among all research variables. The only issue requiring attention is the high correlation between some variables, which may dictate co linearity problems. For example, the correlation between functional quality and brand

relationship is as high as 0.884. Therefore, collinearity diagnosis will be performed prior to regression analysis to confirm whether there are collinearity problems between all independent variables in order to avoid the impact of such problems on research results.

The influence of personal attribution characteristic on chain store supermarket repurchase intention

This study will adopt independent sample t test, one-way analysis of variance and scheffe's poster test to measure whether different demographic background (gender, age, profession, monthly income, educational level and family size) has significant difference on chain store supermarket repurchase behaviors (table 3).

The impact of gender on chain store supermarket repurchase behaviors

The findings show different genders have significant differences of their impact on chain store supermarket repurchase behaviors ($t=-3.826$, $p<0.05$). Female consumers' repurchase behaviors on chain store supermarket ($m=3.263$) are higher than that of male consumers ($m=2.701$), revealing female consumers have more chain store supermarket repurchase behaviors.

The impact of age on chain store supermarket repurchase behaviors

The findings show consumers at different ages have significant difference on chain store supermarket repurchase behaviors ($f=3.141$, $p<0.05$). It is found out by scheffe's poster test, consumers "younger than 20" and "older than 51" have more chain store supermarket repurchase behaviors than other age groups.

The impact of monthly income on chain store supermarket repurchase behaviors

The findings show consumers with different monthly incomes have significant differences on chain store supermarket repurchase behaviors ($f=2.549$, $p<0.055$). It is discovered by scheffe's poster test that the consumers whose monthly income is between "nt\$20,001-35,000" have more chain store supermarket repurchase behaviors ($m=3.462$) than consumers whose monthly income is "nt\$50,001-65,000" and "over nt\$80,001" ($m=3.203$ and 3.157).

The impact of educational level on chain store supermarket repurchase behaviors

The findings show consumers with different educational levels have significant differences in chain store supermarket repurchase behaviors ($f=5.464$, $p<0.05$). It is discovered by scheffe's poster test that those consumers with "senior/professional high school" educational levels have more chain store supermarket repurchase behaviors ($m=3.492$) than consumers whose educational levels are "college", "master" and "doctor" ($m=3.157$, 2.850 and 2.768).

The impact of family size on chain store supermarket repurchase behaviors

The findings show consumers with different family sizes have significant differences on chain store supermarket repurchase behaviors ($f=5.135$, $p<0.05$). It is discovered by scheffe's poster test that the consumers whose family size is "more than 6" have more chain store supermarket repurchase behaviors ($m=3.503$) than consumers whose family size is "less than 2" ($m=2.862$).

Besides, research outcomes show consumers with different professions have no significant differences on chain store supermarket repurchase behaviors ($f=0.591$, $p>0.050$).

Regression analysis

Regression analysis of brand relationship to brand equity

By stepwise regression analysis, six independent variables are chosen into the equation except technical quality. Meanwhile, the six factors can explain in alliance 91.5% of the variances of brand relationship. The model f value achieves 293.835 and p value is 0.000, as is indicated in table 4, representing the global fitting effect of the model is relatively fine. Though the related coefficient of technical quality to brand relationship is 0.193, technical quality is not the predictor variable of brand relationship. This means, to chain store supermarkets, technical quality is just the prerequisite to maintain good

relationship between customers and brand; it has no direct impact on the relationship.

It can be told from table 5 that the significance test values of the 6 predictor variables are all smaller than 0.05, the standardized β coefficients are all positive numbers, indicating their impacts on brand relationship are all positive.

Regression analysis of repurchase behavior to brand equity and brand relationship

Taking customer repurchase intention as a dependent variable, brand equity and brand relationship as independent variables, this study applies stepwise regression process to establish regression equations and the results are indicated in table 6. It can be told from the general parameter of regression model in table 6, model 3 can explain 66.2% of the total variances and the f value in this model is 107.639, the corresponding p value is 0.000, indicating the global fitting effect of the model is fine.

Table 7 indicates only 3 factors enter into the equation when carrying out multiple stepwise regression on customer repurchase behaviors; they are brand relationship, product & service image and functional quality. Their significance test values are smaller than 0.05 and their standardized β coefficients are all positive numbers, indicating their impact on customer repurchase behavior are all positive.

Verification outcome of research hypotheses

From the above statistical analysis, verification outcomes are indicated in table 8.

Conclusions

Conclusions

The research indicates the following conclusions.

(1) The results of this study show gender influences customer repurchase behavior on chain store supermarkets: repurchase intentions of female consumers on chain store supermarkets are higher than that of male consumers. Age will also influence customer repurchase behavioral intentions on chain store supermarkets: elderly consumers (older than 51) and young consumers (younger than 20) have higher repurchase intentions on chain store supermarkets than customers of other age groups. Monthly income has significant impact on chain store supermarket repurchase behaviors. Consumers with low incomes have high repurchase behavioral intentions on chain store supermarkets. Educational level also has impact on chain store supermarket repurchase behaviors: the higher a person's educational level is, the lower his repurchase behavioral intention on chain store supermarket is. Finally, family size influences customer repurchase behavioral intentions on chain store supermarket: the larger a customer's family size is, the higher his repurchase behavioral intention on chain store supermarket will be.

Generally speaking, customers who have higher repurchase behavioral intentions on chain store supermarket are female, young consumers with lower monthly income, lower educational level and larger family size.

(2) Brand awareness, brand reputation, product and service image, user image, corporate image and functional quality will all affect customer repurchase behavior indirectly by influencing brand relationship. Moreover, among all factors of chain store supermarket brand equity, only product and service image and functional quality have direct impact on repurchase behavior. Their direct impact is stronger than indirect impact. In terms of the comprehensive influencing effect of customer repurchase behavior, factors with larger effects are product and service image, functionally quality and brand relationship respectively. Technical quality has no significant influencing effect on customer repurchase behavior.

Managerial implications

According to the above analytical conclusions, this study proposes the following suggestions that can be taken as references when enterprises in the industry make market strategies.

To reinforce by marketing activities the image that product/service are above the money worth

The findings indicate that brand image and perceived quality will influence customer repurchase intention on chain store supermarket, therefore supermarkets should highlight that food with their private brands have price advantages in line with marketing activities, and enable consumers to learn about foods with their private brands clearly in such occasions, so that the private brand awareness will be extended and the image that foods with private brands are above their money worth.

To enhance consumer perception of chain store supermarket quality

The findings reveal perceived quality will influence consumer repurchase intentions on chain store supermarket, thus supermarkets should pay more attention to quality improvement in addition to advertising low prices. The focus of competition should be on low price and high quality. Operators of supermarkets can learn about consumer quality perception conditions by questionnaire survey and interview etc. When consumers are not very satisfied of a certain commodity quality, improvements should be carried out to promote its quality.

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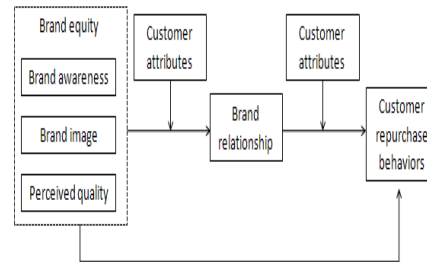


Figure 1. Research structure

Table 1. Factor analysis and internal consistency analysis

Variable	Items	Standardized item loading	Kmo	Cumulative variance %	Cronbach's α
Brand awareness					
Brand awareness	I've heard about this brand before coming to shopping in the supermarket.	0.741	0.846	35.092	0.843
	Many people know the brand of this supermarket.	0.847			
	I often see the name of the supermarket brand in advertisements.	0.824			
	So long as supermarket is mentioned, I'll think of supermarkets of this brand immediately.	0.772			
Brand Reputation	This supermarket brand has good reputation.	0.862	0.865	61.711	0.884
	This supermarket brand is the leader in the industry.	0.840			
	This brand has a long history and has strong impact in the society.	0.811			
	This brand has a favorable WOM and is popular.	0.823			
Brand image					
Product/service Image	Supermarkets of this brand offer good services.	0.869	0.751	23.909	0.865
	Supermarkets of this brand keep improving their service quality.	0.880			
	The services provided by supermarkets of this brand are unique, as impressed me deeply.	0.715			
User image	Most of my friends and relatives choose this supermarket brand.	0.710	0.814	45.248	0.779
	Customers shopping in this supermarket seem to be similar to me.	0.748			

	Purchasing in this supermarket is a symbol of social position.	0.818			
	This supermarket often participates in public welfare activities.	0.797			
Corporate Image	This supermarket has the competence of crisis management.	0.818	0.826	59.391	0.768
	This supermarket has a good overall image.	0.664			
	The corporate image identity of this supermarket impresses me deeply.	0.636			
Perceived quality					
	The facilities of this supermarket are advanced and convenient for application.	0.689			
	The environment of this supermarket is tidy and clean.	0.768			
Technical quality	The clothing of employees in this supermarket is neat and proper.	0.766	0.808	44.704	0.831
	The quality of products provided by this supermarket is reliable.	0.769			
	This supermarket always introduces new services or innovative products.	0.666			0.83
	The consumption in this supermarket is above the money's worth.	0.688			8
	The overall shopping environment of this supermarket is comfortable and pleasant.	0.810			
Functional quality	This supermarket can meet customized demands.	0.808			
	The employees of this supermarket have the ability to solve problems quickly.	0.776	0.786	72.252	0.847
	The employees of this supermarket are reliable.	0.750			
	When i face difficulties, this supermarket will make efforts to help me.	0.739			

Brand relationship				
The shopping experience in this supermarket is enjoyable.	0.853			
I believe this supermarket is capable of providing the products and services needed.	0.849			
I think this supermarket won't cheat customers.	0.802	0.81	64.955	0.888
I'm satisfied of the facilities in this supermarket.	0.780	5		
I'm satisfied of the services provide by employees of this supermarket.	0.827			
I believe in this supermarket brand.	0.716			
Customer repurchase behavior				
I'm willing to purchase in this supermarket again.	0.926			
If being asked to choose again, i'll choose supermarkets of this brand.	0.918	0.79 5	84.835	0.911
I won't consider about supermarkets in other brands.	0.920			

Table 2. Correlation coefficients among variables

Construct	1	2	3	4	5	6	7	8	9
1. Brand awareness	-								
2.brand reputation	0.712	-							
3.product/service image	0.526	0.582	-						
4.user image	0.698	0.700	0.519	-					
5.corporate image	0.612	0.712	0.621	0.592	-				
6.technical quality	0.768	0.786	0.578	0.714	0.437	-			
7.functional quality	0.814	0.867	0.712	0.708	0.432	0.801	-		
8.brand relationship	0.475	0.786	0.718	0.526	0.337	0.193	0.884	-	

9.repurchase behavior	0.313	0.736	0.706	0.312	0.253	0.104	0.775	0.775	-
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Table 3. The variation analysis of consumer's social and economic background against chain store supermarket repurchase behaviors

Gender	Times	Mean repurchase behaviors	Standard deviation	T or f test	Sig.
Male	214	2.701	0.726	-3.826	0.00**
Female	254	3.263	0.842		
Age					
Younger than 20	38	3.469	0.776	3.141	0.03*
21-30	115	2.805	0.816		
31-40	180	3.287	0.896		
41-50	77	3.169	0.653		
Older than 51	58	3.545	0.677		
Monthly income					
Less than 20,000	105	3.096	0.752	2.549	0.00**
20,001-35,000	190	3.462	0.935		
35,001-50,000	92	3.095	0.752		
50,001-65,000	36	3.203	0.652		
65,001-80,000	28	3.018	0.981		
More than 80,001	17	3.157	0.647		
Educational level					
Lower than junior high school	46	2.501	0.737	5.464	0.00**
High/professional high school	126	3.492	0.761		
Junior college	235	3.157	0.829		
Master	51	2.850	0.781		
Doctor	10	2.768	0.901		
Profession				0.591	0.73

Freelance	46	3.046	0.591	5.135	0.00**
Industrial, commercial & service industry	172	3.048	0.718		
Military, public and teaching personnel	30	2.861	0.614		
Housewife	86	3.082	0.565		
Student	107	3.061	0.692		
Retiree	15	2.973	0.309		
Other	12	2.998	0.853		
Family size					
Less than 2	65	2.862	0.490	5.135	0.00**
3-5	286	3.127	0.778		
More than 6	117	3.503	0.927		
Note: ** p<0.05, *** p<0.01.					

Table 4. General effect parameter of stepwise regression model (a)

General effect parameter				Significance test of r^2	
R	R^2	Adjusted r^2	Estimated standard error	F	Sig.
0.958	0.918	0.915	0.29136824	293.835	0.000

Note: predictor variables: (constant), functional quality, brand reputation, brand awareness, corporate image, user image and product & service image

Table 5. Regression coefficient and significance (a)

Explanatory variables	Non-standardized regression coefficient		Standard regression coefficient	T value	Significance Probability
	B	Standard error	Beta		
(constant)	0.000	0.023		0.004	0.997
Functional quality	0.153	0.052	0.153	2.924	0.004

Brand reputation	0.204	0.067	0.205	3.071	0.003
Brand awareness	0.100	0.041	0.100	2.433	0.016
Corporate image	0.234	0.031	0.235	7.598	0.000
User image	0.361	0.043	0.362	8.396	0.000
Product/service image	0.423	0.065	0.425	6.306	0.000

note: dependent variable: brand relationship

Table 6. General effect parameter of stepwise regression model (b)

Model	General effect parameter				Significance test of r^2	
	R	R^2	Adjusted r^2	Estimated standard error	F	Sig.
1	0.775 ^(a)	0.601	0.598	0.63375930	243.825	0.000 ^(a)
2	0.804 ^(b)	0.647	0.642	0.59794174	147.450	0.000 ^(b)
3	0.818 ^(c)	0.669	0.662	0.58097461	107.639	0.000 ^(c)

Note:

A: predictor variable: (constant), brand relationship

B: predictor variable: (constant), brand relationship, product & service image

C: predictor variable: (constant), brand relationship, product & service image, functional quality

Table 7. Regression coefficient and significance (b)

Explanatory variables	Non-standardized regression		Standard regression	T value	Significance Probability
	coefficient		coefficient		
	B	Standard error	Beta		
1(constant)	- 1.82e-015	0.019		0.000	1.000
Brand relationship	0.775	0.050	0.775	15.615	0.000
2(constant)	2.08e-005	0.047		0.000	1.000
Brand relationship	0.554	0.067	0.554	7.447	0.000
Product & service	0.307	0.067	0.308	4.581	0.000

image					
3(constant)	1.76e-005	0.045		0.000	1.000
Brand relationship	0.316	0.102	0.301	2.615	0.003
Product & service image	0.260	0.061	0.261	3.773	0.000
Functional quality	0.324	0.100	0.324	3.247	0.001

Table 8. Verification outcomes of research hypotheses

Hypothesis	Definition	Verification outcome
Brand equity and brand relationship	Brand awareness will influence brand relationship	Support
	Brand reputation will influence brand relationship	Support
	Product & service image will influence brand relationship	Support
	User image will influence brand relationship	Support
	Corporate image will influence brand relationship	Support
	Technical quality will influence brand relationship	Not supported
	Functional quality will influence brand relationship	Support
Brand relationship and repurchase behavior	Brand relationship will influence repurchase behavior	Support
Brand equity will influence customer repurchase behavior directly	Brand awareness will influence customer repurchase behavior directly	Not supported
	Brand reputation will influence customer repurchase behavior directly	Not supported
	Product & service image will influence customer repurchase behavior directly	Support
	User image will influence customer repurchase behavior directly	Not supported
	Corporate image will influence customer repurchase behavior directly	Not supported

	Technical quality will influence customer repurchase behavior directly	Not supported
	Functional quality will influence customer repurchase behavior directly	Support
Brand equity will influence repurchase behavior indirectly	Brand awareness will influence customer repurchase behavior indirectly	Support
	Brand reputation will influence customer repurchase behavior indirectly	Support
	Product & service image will influence customer repurchase behavior indirectly	Support
	User image will influence customer repurchase behavior indirectly	Support
	Corporate image will influence customer repurchase behavior indirectly	Support
	Technical quality will influence customer repurchase behavior indirectly	Not supported
	Functional quality will influence customer repurchase behavior indirectly	Support