MEASURING THE STORE IMAGE AS A HIGHER ORDER FACTOR
IN UDON THANI PROVINCE

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Abstract

The objective of the research was to examine the store image in Udon Thani province. Given the literature review, a model proposed the store image which was identified as a one-dimensional construct consisting of five components such as brand name, product quality, service quality, atmosphere, and perceived value. Using a survey design, data were collected via questionnaires interviewing 443 household samples. They included the customers of stores in Udon Thani province. The author argued the second-order factor structure for the store image significantly supported. This suggested that customers evaluated the store image on five basic dimensions but they also viewed overall store image as a higher order factor that captured a meaning common to all dimensions.

Keywords: Second-order factor analysis, Store image, Service quality

Introduction

Because of stronger domestic demand, Thai retail industry sales were increased by 5 percent to Bt 1.4 trillion in 2010 [1]. Retailing has evolved in less than four decades from the traditional Thai tiny shop-house to world-class shopping and leisure complexes [2]. Respectively, large-scale retail, and other industrial institutes are now spreading to the rural localities of Thailand.

The retail industry can be categorised into six major segments: supermarkets, discount stores and superstores, convenience stores, department stores, specialty stores, and traditional markets (food markets and “mom and pop” stores) [2]. The latter type accounts for nearly three-fourths of the whole food market with supermarkets and superstores contributing the remaining one-quarter. Competition for share is intense in

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the Bangkok metropolitan area as well as in other big cities (e.g., Chiang Mai, Udon Thani, Khon Kaen, Nakorn Ratchasima, Songkhla, Chonburi).

A distinctive store image that is difficult to replicate is one of the most valuable assets for creating competitive advantage [3]. Reardon [4] noted that as store image becomes a key competitive factor, it is necessary to identify and modify it. This managing of store image is a critical skill for today’s retailers.

As the store’s image is the most valuable asset of a retail store, it can be used for establishing a store’s competitive advantage via positioning or differentiating from its competitors [5]. Furthermore, a good store image, like perceived store value, is based on a customer’s overall perception and evaluation of a particular store [6-10]. These facets, however, are difficult for an individual retailer to develop, manage or even maintain as critical assets [11-13]. Based on existing theories, this paper addressed the following research questions:

What were the components of the store image?

**Literature Review**

The association between store image, perceived store value and store preference or purchase intention has been examined using theoretical perspectives such as the perception-preference paradigm which is based on an information processing theory of consumer choice [14-16]. Review of the literature is divided into two major themes, which contributes to the theoretical framework of this paper:

- definitions of store image
- preference formation

**Definitions of Store Image**

A number of scholars have defined store image as a gestalt construct or global impression. Martineau [17] was probably the pioneer in exploring the insight into the store image. He described the concept as "the way in which the store is defined in the shopper's mind, partly by its functional qualities and partly by an aura of psychological attributes [18]. "Functional qualities" refer to the physical properties such as, merchandise selection, price range, store layout and other such qualities that can be more or less objectively compared with those of a competitor. Moreover, these physical properties can be visualised on a good-bad scale [18]. "Psychological attributes" refer to such things as
the sense of belonging or feeling of friendliness. The definition implies that not only objective or physical properties but also psychological properties are the components of store image. Similarly, Oxenfeldt [19] referred to image as more than the sum of its parts. For example, an image consists of tangible realities as well as intangible and fantasy factors, which must be quantified and related to different customer segments [20-21].

Hirschman [5] provides a definition for the process of image development and formation. The store image is a subjective or cognitive occurrence that stems from the gaining of knowledge about the store in the function as it is perceived relative to others. Still others define image as a cognitive or affective phenomenon which is inferred either from a set of ongoing perception or memory inputs combining to an occurrence, representing how a store is perceived by an individual [22].

Other scholars have defined store image as attitude. Finally store image can be defined as how customers perceive and evaluate a retail store. For instance, Engel; & Blackwell [23] define store image as consumer's overall perception of a particular store. Likewise, Hawkins; Albaum; & Best [24] and Amirani; & Gates [25] describe store image as the consumers’ evaluation of a store depicted as a bundle of both tangible and intangible attributes.

In short, the concept of store image is unquestionably complex and important. It represents the personality of a store as perceived by its customers and others. It is a unique symbolic impression incorporating not only tangible but also intangible components as well.

Since store image is an intricate and synthesised construct that varies across store types, it is necessary to understand the components of image, as well as how stores differ in the importance they give to the various components. Martineau [17] proposed that store image components are composed of four dimensions: layout and architecture, symbols and colours, advertising, and sales personnel.

Kunkel; & Berry [26] build up an image dimension record. By answering three open-ended questions, respondents provided 3,737 statements expressing their perceptions of department stores, statements of dimensions they like and dislike, and statements of why they thought the others shopped in those stores. Based on these statements, the authors generated 12 broad categories (price of merchandise, quality of merchandise, assortment of merchandise, fashion of merchandise, price of merchandise,
sales personnel, locational convenience [27], other convenience factors, services, sales promotions, advertising, store atmosphere, reputation on adjustment) derived from a total of 43 individual dimensions.

Based on an analysis of 220 themes which consumers used to describe their desired store image, Zimmer; & Golden [20] proposed 47 image dimensions. Using United States of America mass merchandisers such as Sears, K-Mart, and Wards as examples, they found 32 attribute-specific and 15 non-attribute-specific dimensions.

Linquist [18] reviewed 26 empirical and theoretical studies of retail store selection. From this review, he divided the concept of store image into nine dimensions - merchandise, service, clientele, physical facilities, convenience, promotion, store atmosphere, institutional factors, and past transactions. However, these nine categories are of unequal weight and importance in overall composition of store image. Linquist [18], based on how often these dimensions were referred to by scholars, concluded that merchandise-related considerations are quite critical image dimensions. In fact, the three most often mentioned dimensions were related to merchandise.

Preference Formation

Very often research on consumer's decision making on store (store choice) or product level, uses the perception-preference paradigm based on information processing theory [14, 28, 29]. For example, Olshavsky [30] on the integrated perspective of perceived quality in consumer decision-making, suggests that consumer's preference formation for merchandise, or for a store definitely involves types of decision-making process or evaluation (e.g., attitude or preference) and the perception of quality. The former is based on intrinsic or extrinsic cue [14, 28] whereas the latter is based on only extrinsic cues [31]. That is, store image dimensions or environmental cues that have been used for forming store preference would influence the patronage behavior [32]. He however notes that store image may serve as a cue to quality of a brand and vice versa.

A number of studies have investigated the price-perceived quality relationship. For example, Dodds; Monroe; & Grewal [33] price model posited price, perceived quality, perceived sacrifice, perceived value, and willingness to purchase have considerable association. According to the model, individuals have perceived actual price as an extrinsic cue/stimulus of product quality, that is, price can serve as both objective properties and subjective internal symbol, which results in some meaning to the
consumer. Price can be an indicator of level of quality as well as an indicator of the amount of sacrifice needed to purchase a product [34]. Higher prices lead to higher quality as a result to a greater intention to purchase. Nevertheless, the higher price embodies a monetary measure of what must be given up to purchase the product.

Hildebrandt [35] study of the critical success factors of food retailing business noted that store image consists of merchandise quality, price and atmosphere dimensions. In addition, price image significantly affects the store performance, and is strongly correlated with merchandise quality.

In a review of the price perception literature, Monroe; & Krishnan [36] note that price can positively affect the perceptions of quality as well as negatively affect the perceptions of value and intention to purchase. However, multiple conceptual problems and methodological limitations compromise preceding research [37]. While, Rao; & Monroe [38] found that individuals rely less on price information for their quality judgments as adding extrinsic information. The extent of that effect depends on the degree of which individuals are familiar with or knowledgeable of product category, and the degree to which the extrinsic cues provide similar or dissimilar information about the product. Olson; & Jacoby [31] claim that intrinsic cues such as packaging are more important in minds of the customers than do extrinsic cues (e.g., Price, Brand name, and Store image or name). They conclude that the intrinsic cues with reference to product category are more important in minds of consumer.

Brand name is a commonly used extrinsic cue to infer and maintain quality perceptions and can represent an overall information about a product [34]. Rao; & Monroe [39] suggest that price as well as brand name exhibits significant positive links to perceived quality, however the positive effect of store name on perceived quality is statistically small. Likewise, Monroe; & Krishnan [36] suggest that, price has an interaction role with other information (i.e., Brand name and Store name) to improve quality perceptions [16].

An empirical evidence from the environmental psychology literature supports the notion that these variables such as store’s physical milieu, personnel, and customer-related policy and practices can have an effect on attitudinal and behavioural response of consumers in retail stores [40]. Donovan; & Rossiter [15] studying the relationship between the eleven different store environments, emotional states and behavioural intentions, found that store-induced pleasure is positively associated with willingness to
buy. The store-induced arousal influences the time spent in store and willingness to interact with sales personnel. Baker; & Levy [41] indicate that consumers' pleasure in store environment is derived from both ambient and social cues, while arousal of consumer infers arises only social cues. Both affective states-pleasure and arousal are in turn found to have a positive relationship with respondents' willingness to buy. Baker; Grewal; & Parasuraman [42] point out that store atmospherics influence store image and qualities of merchandise and service. In addition, ambience (i.e., providing music and lighting) and social cues (i.e., number of salespeople, greetings by salespersons, and dress standards of salespersons) contribute to customers' perceptions of merchandise and service qualities [7]. Bleomer; & Ruyter [43] investigate the linkage between store image and store loyalty by taken into account store satisfaction. They found that the positive linkage between manifest satisfaction and store loyalty is significantly greater than the positive linkage between latent satisfaction and store loyalty. They also suggest that there is a substantially positive effect of store image on store loyalty.

Preference formation such as attitude, preference, or store image has often been based on price, product feature and brand name. In the other words, price has an influence through perceived store image, perceived product quality, attitude, or preference on store success concepts- store patronage, store loyalty, store image.

To summarize, the study implies that the retail store images were captured by consumers’ beliefs on product quality, service quality, atmosphere, brand name, perceived value and overall store image.

The Structural equation: 
$$\eta = \Gamma \xi + \zeta$$

The Measurement equation: 
$$y = \Lambda_y \eta + \varepsilon$$

**FIGURE 1**: SHOWS THE PATH DIAGRAM FOR THE SECOND-ORDER FACTOR MODEL. THIS MODEL CONSISTS OF A STRUCTURAL EQUATION AND A MEASUREMENT EQUATION.

The structural equation links the five store image factors, $\eta$ to the latent overall store image, $\xi$. The measurement equation links the observed variable $y$ to their respective hypothesized store image.
Aims

The aim of this research is to examine the store image of the retail sector (see Figure 1). The author proposed a model of the store image. The model, based on the structural equation model, consisted of five constructs, namely perceived product quality, perceived service quality, store atmospherics, brand name and perceived value. It provided a better understanding of the store image in the view of customers. Shifting attention to the measurement part of the model, five latent variables are operationalised by 14 manifest variables acting as reflective indicators. Table 1 details the measure scheme. Therefore, research hypotheses were to examine the overall store image direct causal influences on perceptions of product quality, perceived service quality, store atmospherics, brand name and perceived value (γ₁, γ₂, γ₃, γ₄ or γ₅ ≠ 0).

FIGURE 1: THE SECOND-ORDER FACTOR MODEL
Materials and Methods

The proposed research design employs a quantitative approach. It includes a two-stage process. The first stage is a pilot study (i.e., Pretesting questionnaire items) of undergraduate business students conducting data collection in Udon Thani Rajabhat University. In addition, cross-section survey design of this investigation into store image attributes necessitates uncovering the variables of interest and their relationship [44-45]. This entails conducting a large-scale field study.

TABLE 1: MEASUREMENT OF THE STORE IMAGE

<table>
<thead>
<tr>
<th>Scale</th>
<th>Scale Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Quality</td>
<td>Y1: The workmanship of general products at the store would be good.</td>
</tr>
<tr>
<td></td>
<td>Y2: In general, the quality of products at the store.</td>
</tr>
<tr>
<td>Service Quality</td>
<td>Y3: The store employees give you prompt service.</td>
</tr>
<tr>
<td></td>
<td>Y4: The store employees are always willing to help you.</td>
</tr>
<tr>
<td></td>
<td>Y5: The store gives you individual attention.</td>
</tr>
<tr>
<td></td>
<td>Y6: The store has employees who give you personal attention.</td>
</tr>
<tr>
<td>Atmosphere</td>
<td>Y7: The store is a pleasant place to shop.</td>
</tr>
<tr>
<td></td>
<td>Y8: The color scheme at store is pleasing.</td>
</tr>
<tr>
<td>Brand Name</td>
<td>Y9: The reputation of the store name.</td>
</tr>
<tr>
<td></td>
<td>Y10: The reputation of the brand name.</td>
</tr>
<tr>
<td>Perceived Value</td>
<td>Y11: In general, the prices at the store are very low.</td>
</tr>
<tr>
<td></td>
<td>Y12: The amount of money required to acquired in general products at the store</td>
</tr>
<tr>
<td></td>
<td>Y13: In general, products at the store are considered to be a good buy.</td>
</tr>
<tr>
<td></td>
<td>Y14: The price attached to general products at the store.</td>
</tr>
</tbody>
</table>

The Sample and Data Collection

The focus of this survey research was on scrutinising the causal link of store image dimensions. The target population included such information as sampling elements, sampling unit, and area of coverage. The target of this study referred to all households located in UdonThani municipal area, that is to say, 60,960 households [46]. Next, researcher listed the population members used to obtain a sample. It was a so-called sampling frame. Actually, the description, households address, of a sampling
frame did not have to enumerate all population members. The sampling technique used in this paper included a probability sampling, namely a random sampling. The simplest method of drawing a probability sample was to do it randomly. It guaranteed that every sample of a given size has an equal chance of being selected. To draw a simple random sample required a list that specifically enumerates each household in the target population. Numbers from 1 to N [46] were assigned to each household in the list and a random number table was used to select n (the desired sample size 443 observations). Data collection involved survey 443 households at their homes with paper-and-pencil questionnaires in November 2003.

**Research Instrument**

The store image scale was constructed and tested in several steps in accordance with Churchill [47], Gerbing; & Anderson [48]. The basic steps included specifying the domain of the construct, generation of sample items, measurement purification, and assessing reliability and validity.

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**FIGURE 2: A SUMMARY OF THE STAGES FOR THE CONSTRUCTION OF THE MEASUREMENT INSTRUMENT.**
Techniques discussed by Gerbing; & Anderson [48] were included in the last step, assessing reliability and validity. A summary of the stages followed for the construction of the measurement instrument can be seen in figure 2.

This study utilized nondisguised - structured questionnaires, based on a 7-point Likert-type scale ranging from 1 (strongly disagree, very low, very bad) to 7 (Strongly agree, Very high, Very good), and a semantic differential scale [27, 47]. The questionnaire consisted of two sections, each designed to elicit responses for the followings. Part 1, store perception and preference of respondents on store attributes: perceived merchandise price, perceived merchandise quality, perceived service quality, perceived store atmosphere, perceived store value [33, 42, 49, 50] (see Table 1). Part 2, background information of the characteristics of the respondent including age, gender, income and frequency of purchasing patronage.

**Analytical Techniques**

LISREL VIII [51-52] is mainly used for data analysis since the proposed model is a simultaneous system of equations having latent constructs (Unobservable variables) and multiple indicators. It is a powerful methodology for assessing validity and reliability of marketing constructs [53]. In LISREL an important consideration is to demonstrate that the model is properly identified. Quantitative data will be analyzed by multivariate statistical techniques, such as structural equation modeling.

**Results**

**Characteristics of Sample Population**

The majority of the sample is aged 25-34 (35.9%) and 35-44 (29%) respectively. In terms of education, most of the subjects (45%) have completed a bachelor’s degree while 34% only completed high school. Most of the subjects (43 %) had an income level between 5,000 and 10,000 baht per month. There were 41.7 % male buyers, while 57.3 % were female buyers.

According to the households’ purchasing behaviour, more than half of the households shopped at Big C (63.7%), while one third shopped at Tong Ngeesun, Makro and Tesco Lotus. Most of them bought clothing (59.5%), cosmetics (49.8%), confectionery (47.6%), and shoes (47.3%).
Tests of Hypotheses

Table 2 contained the maximum likelihood LISREL estimates of the model’s parameters and their t-values. All estimated parameters (i.e. the structural coefficients contained in $\Gamma$ and the measurement coefficients contained in $\Lambda$) were positive and significant at the 0.05 level.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>T-Value</th>
<th>Parameter</th>
<th>Estimate</th>
<th>T-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\lambda_{1,1}$</td>
<td>1.00</td>
<td>N/A</td>
<td>$\lambda_{11,5}$</td>
<td>0.60</td>
<td>3.36*</td>
</tr>
<tr>
<td>$\lambda_{2,1}$</td>
<td>0.96</td>
<td>7.88*</td>
<td>$\lambda_{12,5}$</td>
<td>0.36</td>
<td>3.62*</td>
</tr>
<tr>
<td>$\lambda_{3,2}$</td>
<td>1.00</td>
<td>N/A</td>
<td>$\lambda_{13,5}$</td>
<td>1.00</td>
<td>N/A</td>
</tr>
<tr>
<td>$\lambda_{4,2}$</td>
<td>1.12</td>
<td>12.34*</td>
<td>$\lambda_{14,5}$</td>
<td>0.46</td>
<td>3.36*</td>
</tr>
<tr>
<td>$\lambda_{5,2}$</td>
<td>1.19</td>
<td>12.19*</td>
<td>$\gamma_{1}$</td>
<td>0.75</td>
<td>11.27*</td>
</tr>
<tr>
<td>$\lambda_{6,2}$</td>
<td>1.18</td>
<td>12.62*</td>
<td>$\gamma_{2}$</td>
<td>0.84</td>
<td>11.52*</td>
</tr>
<tr>
<td>$\lambda_{7,3}$</td>
<td>0.78</td>
<td>9.29*</td>
<td>$\gamma_{3}$</td>
<td>0.60</td>
<td>9.24*</td>
</tr>
<tr>
<td>$\lambda_{8,3}$</td>
<td>1.00</td>
<td>N/A</td>
<td>$\gamma_{4}$</td>
<td>0.57</td>
<td>8.47*</td>
</tr>
<tr>
<td>$\lambda_{9,4}$</td>
<td>0.95</td>
<td>8.51*</td>
<td>$\gamma_{5}$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: underlined estimates indicated those parameters that had been constrained to equal 1 in order to fix the scale of the latent

* Indicates significance at p<.01 level

The author proposed the store image as a second-order factor (see Figure 1). The results of this analysis, presented in Table 2, indicated that the model was an excellent fit. For this model, GFI was 0.95, RMSEA was 0.05, CFI was 0.94, $\chi^2/df$ was 2.17 [54-55]. These provided support for the hypothesis. It’s showed that store image consists of five components. More specifically, overall store image had significant causal influences on product quality ($\gamma_{1}=0.59, t=8.2$), service quality ($\gamma_{2}=0.75, t=11.27$), atmosphere ($\gamma_{3}=0.84, t=11.52$), brand name ($\gamma_{4}=0.60, t=9.24$) and perceived value...
This hypothesis is meaningful to confirm the results of Chowdhury; Reardon; & Srivastava [27], Grewal; et al. [16] and Linquist [18]). In addition, it was probably consistency with a number of studies, for example Martineau [17], Baker; Grewal; & Parasuraman [42], Koo [3], Untachai; & Mizerski [7], Darden; & Babin [56] and Mazursky; & Jacoby [22].

Conclusions

Having been synthesized from the researches of Martineau [17], Linquist [18] and Chowdhury; Reardon; & Srivastava [27], this empirical study, a second-order factor model was developed to test whether a set of five store image dimensions. The hypothesis had been supported in this study. That is the overall store image direct causal influences on perceptions of product quality, perceived service quality, store atmospherics, brand name and perceived value. This paper concluded that the second-order factor structure for store image was well supported. This suggested that customer evaluated the store image on five basic dimensions but that they also viewed overall store image as a higher order factor that captured a meaning common to all dimensions.

Future research Implications

For a research perspective, although the proposed model in this study contains no retailing performances namely sales, profit, customer satisfaction or customer loyalty, it would be interesting to relate this model to such measures [29].

Two aspects of modeling consumer decision-making can be questioned if the propositions prove to be accurate representations: a) the tendency to use actual attributes of store and products rather than consumer perceptions of those attributes, b) the practice of duplicating and commingling physical attributes with higher order attributes.

A main difficult in studying store image is the number of meanings of store image held by consumers. Building a model of store image necessitates the researcher to understand which of the many meanings are implicit in consumers’ expressions of store image. Utility models are rich in light of methodological refinements, but do not address the distinction between attributes and higher level abstracts [22].
The approaches used to investigate store image, the higher order abstract, include aggregate cognitive mapping, structural analysis, cognitive differentiation analysis, and store image - structure mapping. These techniques are more appropriate than preference mapping or multiattribute modeling for investigating concepts like store image [29, 57].

**Managerial Implications**

From a managerial perspective, the results provide an initial empirical evidence of the importance of implementing the store image strategies holistically rather than piecemeal.

These suggest that customer evaluate store image on five basic dimensions but that they also view overall store image as a higher order factor that captures a meaning common to all dimensions. That is retailing managers cannot be selective in implementing certain image dimension practices and regardless of others due to all subcomponents serve as building blocks of one concept. However, the managers should pay more attention on service quality and the store atmosphere for developing the favorable store image.

A top priority for marketers is to find which of the many extrinsic and intrinsic cues consumers use to signal store image. This process involves a careful look at situational factors surrounding the purchase and use of the product. Does quality vary greatly among products in the category? Is store image difficult to evaluate? Do consumers have enough information about intrinsic cues before purchase? Identifying the important store image signals from the consumers' point of view, then communicating those signals, is likely to lead to more vivid perceptions of store image. Brand name, for example, is an extrinsic cue that has more substantial influence on perceived quality than does store atmospherics [12].

Linkage of lower level attributes with higher-level abstracts locates the driving force and leverage point for marketing and advertising strategies [29, 31].

Consumers’ perceived store image is changed over time due to added information, increased competition in retail industries and changing expectations. The dynamic nature of store image suggests that marketers must track consumers’ perception over time and align product and promotion strategies associated with these changing views. Managers must be able to inform consumers on ways to evaluate store image.
Advertising, the information provided in packaging, and visible cues associated with products can be managed to evoke desired store image perception.

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