Causal Path Modeling of Grocery Shopping in Hypermarkets

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Executive summary and implications for managers and executives

Purpose: To examine attitudinal and behavioral shopping patterns related to hypermarket shopping in an Asian market, which has undergone a revolutionary transition from traditional to modern trade food retailing in the past decade. The first class includes shopping enjoyment, risk aversion, price signaling, innovativeness, trust and future purchase intentions. The second group of behavioral shopping patterns includes advocacy, time, and money spent shopping.

Methodology: A sample of 244 shoppers was interviewed across Bangkok using a structured questionnaire through face to face personal interviews.

Findings: The study finds that grocery shoppers tend to be more risk averse when time pressured, but less risk averse if they are innovative. Bangkok Thais scoring high on innovativeness and shopping enjoyment and are more frequent patrons of hypermarkets than other grocery store formats. While a particular aspect of hypermarket grocery shopping behavior is found to relate to advocacy and future loyalty intentions, it does not contribute to enhanced store trust.

Research Limitations: While Thailand is part of Southeast Asia, not all countries share the same cultures or consumer behavior. Similarly, as Bangkok is a megacity, it cannot be said to represent rural parts of the country.

Practical Implications: As the majority of modern retailers are owned and managed by Western countries, the format is relatively new in most Asian markets. Their growth has not evolved naturally and may result in cross-cultural consumer behavior conflicts, thus findings help extant or new retailers better understand consumer behavior. Because of high risk aversion, private label brands may require that stores develop greater trust among consumers, perhaps through sampling or building awareness of the concept behind private label. Thai hypermarket shoppers appear driven more by convenience than by time pressure. Because they tend to shop in groups and enjoy this experience, retailers may want to consider more of the experiential or social aspects involved in shopping, rather than purely functional offerings.

Originality/Value: By applying predominantly Western theories to a developing Asian market, their generalizability can be tested.

Keywords: Hypermarket grocery retailing, shopping motivation and behavior, Asian region.

Paper type: Research paper

Abstract

As a consequence of radically changed protectionist government policy in the late 1990s, the modern retail trade in Thailand has received a revolutionary boost and enjoyed explosive growth. This has not been a particularly evolutionary change with respect to grocery shopping in Bangkok. The superimposition of a modern Western retail format, in less than ten years, has seen the number of hypermarkets grow from two or three to approximately 174 superstores, which now account for 60 percent of food sales. One outcome of this is that shoppers are increasingly abandoning the traditional trade for their grocery shopping needs. Past studies show that shoppers from Eastern collectivist cultures are affected by a variety of culturally-related issues. This study is conducted to better understand consumer behavior as it applies to hypermarket grocery shopping, but also investigates its several potential consequences, such as store trust and future shopping intentions. The study finds that grocery shoppers tend to be more risk averse when time pressured, and less risk averse if they are innovative. Bangkok Thais scoring high on innovativeness and shopping enjoyment and are more frequent patrons of hypermarkets than other grocery store formats. While hypermarket grocery shopping behavior is found to relate to advocacy and future loyalty intentions, it does not contribute to enhanced store trust. Implications for retailers are discussed.

Keywords: Hypermarket grocery retailing, shopping motivation and behavior, Asian region.

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Introduction

In times of strong competition and changing consumer dynamics, investors in the grocery retail trade need to appreciate consumers' perceptions of the variety of shopping formats available to them. Moreover, to establish primary store status for grocery shoppers, retailers should identify the multifaceted factors that influence customer preferences and decision-making in grocery purchasing. The stereotype of a preferred grocery shopping format to be a clean, neat store, stocked with high-quality fruits, vegetables and fresh meats (Food Marketing Institute 2001), may simply be that, particularly in a collectivist Asian mega city such as Bangkok, Thailand.

A Market in Transition

Bangkok's retail grocery trade gives witness to radical change over the past decade, when foreign direct investment was permitted for the first time. In 1997, foreign competition laws were revoked after the devaluation of the Thai currency, driving change in grocery distribution structures which had remained unchanged since the early twentieth century. Bangkok only got its first department store as late as 1956 (Feeny, Vongpatanasin, and Soonsatham 1996). Smith and Mandhachitara (2000) report that by the early 1990's there were fewer than 50 supermarkets in the city of six million people. 'Mom and pop' general merchandise stores dominated food shopping and numbered in excess of 200,000 outlets before the foreign retail investment liberalization. There was one foreign hypermarket in Bangkok in the early 1990s (Makro), and this was permitted only by the Dutch chain-shareholders being authorized to own a minority of the equity in a joint venture with a local retailer. With liberalization, the success of Makro in Bangkok stimulated a flood of investment in the retailing business category, particularly food. Foreign-owned and managed hypermarket chains now account for more than 60 percent of total food store sales in Bangkok and have largely driven the growth of the entire modern retail trade in Thailand between 1999 - 2006 as Table 1 shows.

-- Take in TABLE 1 --

With the liberalization of foreign direct investment policy in 1997, grocery shopping in Thailand changed principally from traditional mom and pop stores (small, family-owned convenience stores accommodated in row houses) to more Westernized retail formats such as hypermarkets (Smith and Mandhachitara 2000). Supermarkets grew much more slowly during the seven years period than did hypermarkets (see Table 1). As of 2006, the number of hypermarkets in Bangkok totaled 174 stores (Siam Future Development 2007). The average size of a Bangkok hypermarket is 8,000 to 15,000 square meters, although outside this count smaller formats are increasingly being launched. The retail scene in Bangkok has undergone a revolutionary, rather than evolutionary transformation over a period of a decade, and that this expansion and change is driven by opportunistic foreign investment rather than by consumer pressure. With modern trade formats growing rapidly, consumer behavior has changed, to the point that AC Nielsen reported in 2006 that hypermarkets are the main shopping format for more than 60 percent of grocery shoppers in Bangkok. However, this change may lead to idiosyncrasies, such as low grocery market knowledge, the use of extrinsic cue reliance (such as brand or price) as a sign of quality, and the very slow adoption of private label brands (Mandhachitara, Shannon, and Hadjicharalambous 2007).

Due to the recent and rapid domination of the hypermarket grocery shopping format in Bangkok, an analysis of this shopping behavior phenomenon is a valuable undertaking to enhance understanding by academic researchers and marketing practitioners alike. This rapid growth has seen the superimposition of a Western retail format on a still very traditional Thai grocery shopping culture. The outcomes of this sudden transformation are in many ways remarkable and deserving of our attention. Hence, this paper explores Bangkok hypermarket grocery shoppers' attitudes and shopping behaviors, as well as their outcomes, employing a causal path partial least squares model.

Literature Review

Thailand as a Collectivist Culture

Culture defines that which represents appropriate and socially desirable consumption, thus shaping tastes and preferences for goods (Kaltcheva and Weitz 2006). Asian cultures place importance on face and status, and Asian people tend to do things in groups, thus their (shopping) behavior is likely to be influenced by group norms, increasing the likelihood of interpersonal influence in a group-shopping situation (Triandis 2001). Thailand, in particular, is a collectivistic society, emphasizing fitting in (Markus and Kitayama 1991), social harmony (Triandis and Sun 2002), interpersonal sensitivity, conformity, and readiness to be influenced by other people (Triandis and Sun 2002). As shopping is a conspicuous social event (Neeley and Coffey 2007), behavior may change when shoppers are with significant others (Ariely and Levav 2000; Ratner and Kahn 2002). Thus the greater the social commitment one has to a group, the more one perceives it to be an important part of who one is (e.g., Bright 2000; Venkatesh 2006). Specifically, one may adjust one's behavior while shopping to harmonize with the social group (Cialdini, Darby, and Vincent 1990; Fitzmaurice and Comegys 2006; Miller, Jackson, Thrift, Holbrook, and Rowlands 1998), which could affect brand selection.

Selected Factors Affecting Shopping Behavior

Price Signaling

A number of studies show consumers to be largely ignorant of prices (e.g., Grewal and Lindsey-Mullikin 2006; Vanhuele and Dreze 2002), perhaps due to low involvement, high competition, or because consumers feel prices do not vary much (Grewal and Lindsey-Mullikin 2006). However, firms tend to use high prices to signal high quality, and consumers often embrace such positive price signaling (Kalita, Jagpal, and Lehmann 2004). Consumption of a high-priced product is likely to demonstrate to others an individual's economic advantage, and thus enhance perceived social position (Belk 1988). These characteristics also tend to lead to increased extrinsic cue reliance, such as the belief that higher price equals higher quality and that well-known brand names offer higher quality.

Time Pressure

As applied to shopping, time pressure can significantly alter shopping behaviors (Nicholls, Roslow, and Dublish 1997). High versus low levels of time pressure may permit grouping consumers and servicing specific target markets based along this dimension (Van Kenhove and De Wulf 2000). Impulse may drive the purchase of food products and involve low effort in searching and processing information (Bagozzi, Rosa, Celly, and Coronal 1998). Specifically, limited amounts of time may influence food purchasing behavior (Binkley 2006). Berry, Seiders, and Grewal (2002) study the relationships between consumer's perception of time pressure and the importance of time saving. Time-pressured shoppers are found to strive for efficiency (Herrington and Capella 1995). Vermeir and van Kenhove (2005) study the relationship between the need for closure and perceived time pressure in retail grocery shopping. When facing time pressure, confidence in products and convenience play important roles in the buying decision (Kidwell and Jewell 2003).

Considerable research focuses on Western cultural ideas, including the construct of time. A wide range of distinct social constructions of time exists (Graham 1981; Gurvitch 1964), and some scholars claim that Eastern cultures are more past-oriented than Western societies (Davies and Omer 1996; Omer 1995). Cote and Tansuhaj (1989) test time orientation, probabilistic thinking, and locus of control in Thailand, Jordan and the U.S. and find that Western cultures have more linear time orientations than do Eastern cultures.

Shopping Enjoyment

Several research studies indicate that social aspects relate to shopping (Buttle and Coates 1983; Roslow, Nicholls, and Corner 1993; Tauber 1972), and that shopping has marked enjoyable aspects (Dholakia 1999; Oakley 1974). Western studies support this view, and collectivist cultures are likely to magnify such behavior (Miller et al. 1998), which places more emphasis on affiliating with close others and maintaining connectedness (Singelis 1994). Enjoyment and involvement also relate to time availability. If one enjoys shopping, one would be less likely to be cognizant of time spent on it.

Conversely, if a person is time-pressured, their shopping enjoyment likely decreases. Yet this outcome may be situational, as people in time-pressured societies can still value aspects of shopping and food preparation and enjoy spending time on them (Darian and Tucci 1992; Davies 1994); thus consumers may feel time-pressure and still enjoy shopping.

Innovativeness

The study of consumer innovativeness sometimes occurs cross-culturally (Steenkamp, Hofstede, and Wedel 1999). Consumers in individualistic societies value innovativeness positively in comparison to those in collectivistic societies (Steenkamp et al. 1999). The consumer innovator constantly seeks knowledge about new products (Goldsmith, Flynn, and Goldsmith 2003). Stamer and Diller (2006) conclude that the brand conscious segments use brands to signal quality and innovation. Variety seeking is regarded as one aspect of global innovativeness (Hirunyawipada and Paswan 2006; Menon and Kahn 1995). Variety seeking behavior may increase when under scrutiny (Ratner and Kahn 2002); magnificiation of variety seeking seemingly occurs for a collectivist culture while shopping in a group.

Risk Aversion

Tsiros and Heilman (2005) examine the perceived risk relevant to perishable grocery products. Perceived unequal quality between national brands and store brands increase risk in making choices among Spanish consumers (Mieres, Martín, and Gutiérrez 2006). Members of Eastern cultures are sometimes characterized as exhibiting higher uncertainty avoidance than members of individualist cultures (Moss and Vinten 2001). Moreover, in a collectivist culture face and group harmony influence shopping choices that are congruent with group members' values and help reduce risk and in-group conflicts (Bond 1991; Markus and Kitayama 1991; Roth 1995). Because of the social aspect of shopping and interaction with group members (Schutte and Ciarlante 1998), risk aversion likely applies to grocery shopping in terms of preference for branded products as opposed to lowest price or even private label brands. As shopping at physical stores allows inspection of merchandise and face-to-face interaction with

store personnel (Citrin, Stem, Spangenberg, and Clark 2003), such personal services may mitigate perceived risks (Citrin et al. 2003; Lee and Tan 2003).

Shopping Behavior (Repeat Purchase)

The concept of customer loyalty is a main focus of retailer researchers and practioners (Grewal, Levy, and Lehmann 2004), and several measures are used to identify this phenomenon. However, in the retailing context, the length of time customers stay active with a store (Reichheld 1996), the regularity of their purchases (Massey, Montgomery, and Morrison 1970), customer's repeat purchase (East, Gendall, Hammond, and Lomax 2005) or even RFM (reach, frequency and monetary) score (Hughes 1996) can be used. These measures reflect a conception of behavioral loyalty, which is viewed as retention of the brand (e.g., Reichheld 1996; Reinartz and Kumar 2000). In markets such as groceries, where customers may use several brands in a category, researchers often use share-of-category expenditure to measure customer loyalty (e.g., Baldinger and Rubinson 1996; Bhattacharya 1997). Woodside and Walser (2007, p. 2) also refer to this phenomenon more precisely as "brand experience or frequency of selecting the same brand over a number of buying occasions, even if other brands are also purchased during some or all of these buying occasions."

Consumer Outcomes

Trust is an essential element of successful commercial relationships (Berry 1995; Moorman, Deshpande, and Zaltman 1993; Morgan and Hunt 1994). Service experiences provide both parties in the relationship with the opportunity to understand and to trust each other (Geyskens, Steenkampe, and Kumar 1999). The definitions of trust given by Moorman et al. (1993) and Morgan and Hunt (1994) mainly highlight the importance of confidence and reliability. Some research emphasizes trust as a dimension of confidence in the honesty and integrity of the other party, such as with a salesperson (e.g., Crosby, Evans, and Cowles 1990), or with service firms (Gwinner, Gremler, and Bitner 1998). Macintosh and Lockshin (1997) suggest that customer trust in a retailer positively relates to a salesperson's commitment to fulfilling shopper needs and addressing customer questions, which results in more positive

attitudes towards a store and increased purchase intentions. Trust is also regarded as one of the most decisive antecedents of consumers' purchase intentions at on-line retailers (Alba, Lynch, Weitz, Janiszewski, Lutz, Sawyer, and Wood 1997; Grabner-Kräuter and Kaluscha 2003; Urban, Sultan, and Quails 2000). Jarvenpaa (1999) concludes from her findings that trust has a direct influence on attitude and risk, which again have an influence on willingness to buy.

Perhaps the most frequently researched components of loyalty in service marketing studies are future intentions (e.g., Anderson and Fornell, 2000; Rust, Lemon, and Zeithaml 2004). Garbarino and Johnson (1999) consider trust to be a precursor of commitment. They also demonstrate that satisfaction and commitment have differential effects on future intentions depending on the current state of a customer's level of commitment. Trust and commitment are both influential in determining the future intentions of an exchange partner (Morgan and Hunt 1994). Fullerton (2005) finds that effective commitment is strongly and positively related to advocacy intentions. Sirohi, McLaughlin, and Wittink (1998) study consumer attitudes and perceptions for a multi-store grocery retailer, focusing on their store loyalty intentions using intent to continue shopping, intent to increase purchases and intent to recommend the store to others. They conclude that favorable perceptions of service quality, price, merchandise quality and value lead to higher loyalty intentions.

Hypotheses

Consumers may use price to infer quality, and that brand name moderates such influence (Monroe and Krishnan 1985). Consumers with such attitudes may rely on brand names and engage in price seeking behavior (Tellis and Gaeth 1990) – seeking higher prices in the understanding that they yield higher quality. Avery (1996) finds that consumers tend to be largely ignorant of actual prices. Grewal and Lindsey-Mullikin (2006) also propose that price or brand act as a signal of quality (Kalita et al. 2004).

Consumers who do not enjoy shopping emphasize time minimization in their store selections (Hansen and Deutscher 1978). Dellaert, Arentze, Bierlaire et al. (1998) report that time pressure increases

consumers' concerns regarding the efficiency of their shopping behavior, and also that they may try to reduce risk to minimize this (Mattson 1982; Tellis and Gaeth 1990; Vermeir and Van Kenhove 2005).

Consumers may experience enjoyment and fun during their shopping trips and in making their purchases (Holbrook and Corfman 1985; Lehtonen and Maenpaa 1997), and that this hedonic experience raises the level of consumer involvement and arousal (Hirschman 1983). Dholakia (1999) and Dholakia, Zhao, and Dholakia (2005) report that shopping with others leads to greater shopping enjoyment. However, because shopping is a conspicuous social event (Lunt and Livingstone 1992), behavior may change when shoppers are out with a group (Ariely and Levav 2000; Ratner and Kahn 2002). Moreover, consumers who enjoy shopping spend more time per trip and tend to be less traditional, more innovative and more actively involved with information seeking (Bellenger and Korgaonkar 1980). Variety seeking behavior may increase when it is scrutinized (Ratner and Kahn 2002), which a collectivist culture likely magnifies such as when shopping in a group.

In summary, collectivist shoppers tend to enjoy shopping and are likely to try to avoid risk. Time pressured shoppers strive for efficiency (Herrington and Capella 1995) and avoid risk by resorting to price signaling. Therefore, the study proposes the following four hypotheses. H_1: Price signaling relates negatively to risk aversion. H_2: Time pressure relates positively to risk aversion. H_3: Shopping enjoyment relates positively to risk aversion. H_4: Innovativeness relates negatively with risk aversion.

Moore and Lehmann (1980) suggest that highly risk-averse consumers might increase information acquisition in order to decrease uncertainty associated with purchases. Shoppers who are risk-averse may exhibit more utilitarian behavior and strive to increase their grocery market knowledge (Mano and Elliott 1997). Increasing grocery marketing knowledge can result in shoppers paying lower prices (Putrevu and Ratchford 1997; Urbany, Dickson, and Kalapurakal 1996). Therefore, the theory proposes the following hypothesis. H_5: Risk aversion relates positively to intensive shopping behavior.

Consumers in collectivist cultures are more likely to shop together, tend to be part of a larger group on a shopping trip, and also spend more time shopping (Ackerman and Tellis 2001). As shopping

may be performed solely for pleasure (Lehtonen and Maenpaa 1997), consumers who enjoy shopping can be expected to shop more frequently. Bellenger and Korgaonkar (1980) report that recreational shoppers plan less, spend more time shopping per trip, and tend to be less traditional, more innovative and more actively involved in information seeking. Time pressure can substantially alter shopping behavior (Nicholls et al. 1997). Time-pressured shoppers tend to strive for efficiency (Herrington and Capella 1995), which could affect store choice based on location convenience (Myer-Waarden 2007; Seiders, Simonides, and Tigert 2000). Consumers who prefer to seek out a wide variety of product choices are likely to base their decisions on brand associations (Stamer and Diller 2006). Therefore, the study tests the following hypotheses. H_6: Price signaling relates negatively to intensive shopping behavior. H_7: Time pressure relates positively to intensive shopping behavior. H_8: Shopping enjoyment relates positively to intensive shopping behavior. H_9: Innovativeness relates positively to intensive shopping behavior.

Brand strength may be a function of a shopper having observed the offering being purchased for some considerable length of time by family, friends or relatives (Woodside and Walser 2007). A customer's knowledge about a retailer and its associated service, products, and product quality creates trust and repeat purchase (Alba et al. 1997). Urban, Sultan, and Quails (2000) report that groups of online consumers are subject to their repeat buying decisions being influenced by considerations of trust. Therefore, the theory proposes the following hypotheses. H_{10}: Shopping behavior relates positively to trust. H_{11}: Shopping behavior relates positively to future intentions

Overall satisfaction, trust and commitment are commonly used to predict future intentions (Garbarino and Johnson 1999). Huddleston, Whipple, and Van Auken (2004) conclude that satisfaction alone does not imply commitment to a store. However, when trust mediates satisfaction and commitment, this positively influences customers' future intentions. Fullerton (2005) reports that affective commitment is strongly and positively related to advocacy intentions. Therefore, the study examines the following hypothesis. H_{12}: Trust relates positively to future intentions. Figure 1 expresses the hypotheses.

Take in Figure 1 here.

Research Method

The original questionnaire for this study was developed in English, translated into Thai, and then back-translated by three independent, professional, bilingual translators to ensure consistency and meaning equivalence (Brislin 1976; Craig and Douglas 2006; Hui and Triandis 1985). The questionnaires are pre-tested in a pilot study among 30 respondents in order to check for clarity of question meanings and appropriateness of wording. Several minor, but no major modifications are made after the pilot study.

A random convenience sampling procedure is employed. The data are collected across various residential and business districts of Greater Bangkok. Screening questions are administered to ensure that the main grocery shopper of a household is interviewed, and that this person has been grocery shopping within the past month. Face-to-face personal interviews are employed in order to achieve high completeness and accuracy levels for data collected. A final total of 244 questionnaires compose the database.

Scales and Measurement

The design of the questionnaire includes uniformly adapting five-or seven-point Likert scales to four and six points with no neutral point (see Appendix Table 1). This is done because of the potential problem of courtesy-bias on the part of Asian respondents (Ayer 1970; Zhao and Culpepper 1997), which can result in a high number of neutral responses. This phenomenon may be due to ambivalence, or wanting to take the middle path and maintain harmony. Nowlis, Kahn, and Dhar (2002) find that consumers frequently choose a neutral option when asked to express their attitudes or preferences. Peterson's (1994) meta-analysis reveals that the number of items used in a scale has virtually no impact on the reliability of the scale, provided the scale had at least four points. More recently, a split sample experiment by Dawes (2002) reports that five and eleven point scales produce essentially the same data once re-scaled.

Shopping Motives

A battery of salient shopping motives derived from both the general retail and grocery shopping literature is compiled. Appendix Table 1 summarizes the 27 items of shopping motives.

Shopping Behavior

Commonly-used measures of store loyalty focusing on shopper behavior are, for example, percentage of purchases at a particular store (Cunningham 1962; Dunn and Wrigley 1984; Macintosh and Lockshin 1997; Sirohi et al. 1998), dollars spent (Corstjens and Lal 2000), frequency of patronage (Kelley 1967; Seiders and Tigert 1997; Thompson 1967) and degree of store switching (Thompson 1967). Since this study also aims to capture shopping repertoires or multiple channel shopping, more than one dimension of behavior is adopted (Bhattacharya 1997; Bove and Johnson 2006). Respondents are required to complete three behavioral measures for all five major retail formats (e.g., hypermarket, supermarket, convenience store, mom and pop store and fresh market). The three single-item behavioral measures are self reported.

In order to emphasize the importance of hypermarket grocery shopping (see Table 1), the study compares the different aspects of behavioral measurements among all five major retail formats using data we collect in this study. Table 2 reports the mean values and its test of differences using t-tests.

--Take in TABLE 2—

Table 2 reveals that all three behavioral measurements show that hypermarkets are the significantly highest scoring among Bangkok Thai grocery shoppers in this study.

Shopping-Related Consequences

Many of the existing measures of trust and commitment within the relational context focus on specific business-to-business situations and therefore are not directly generalizable to the consumer context (Gundlach, Achrol, and Mentzer 1995; Moorman et al. 1993). Because existing measures cannot be used directly, context-relevant measures of trust and future shopping intentions are adapted, drawing on previous studies and the existing literature. The trust construct in this study is designed to measure confidence in retailer quality and reliability, such as "trust the store" and "rely on the store". The future

intentions construct measures people's willingness to engage in different interactions of the retail format. Three items of (behavioral) intentions are adapted from Zeithaml, Berry, and Parasuraman (1996). In the grocery shopping context, future intentions derive from scales measuring increasing levels of involvement: future communication and future visits. The future intentions construct measures attitudinal intentions in respect of recommending the store to others, for example, "will recommend this store to others" and "discuss good places to shop with friends" and the behavioral intentions in terms of willingness to engage in future interactions with the store, such as, "intend to keep shopping" and "shop at this store the next time".

Measurement Model

The analyses include performing a confirmatory factor analysis (CFA) to validate the construct measurements. CFA aims to purify the best set of indicators that measure the constructs. Additionally, confirmatory factor analysis (CFA), in this research, is used to examine dimensionality, convergent validity and the uniqueness of components of the latent constructs. However, CFA is not performed on two constructs in the relationship model, shopping behavior and trust, because shopping behavior is an indicative variable and the trust variable is comprised of only two items. Appendix Table 2 reports the results of CFA for price signaling, time pressure, innovativeness, shopping enjoyment, risk aversion and future intentions. This table also compares competing models when all items are retained and when certain items are eliminated. Changes in the chi-square test and adjusted goodness-of-fit (AGFI) indices between models demonstrate as to whether one model provides a better fit.

By eliminating item 5 of the price signaling construct, the second CFA model shows a significant incremental fit demonstrated by the reduction in chi-square values, χ^2 (2) = 2.04, χ^2/df = 3.77, p = 0.36, AGFI = 0.98. When all 6 items of time pressure are included in the model, the result shows a bad fit, χ^2 (9) = 54.32, χ^2/df = 6.04, p = 0.00, AGFI = 0.83. In the next step, two items are eliminated sequentially to improve the model. The final model of the time pressure construct shows a better fit, χ^2 (2) = 0.91, χ^2/df = 0.46, p = 0.63, AGFI = 0.99. All 7-items of the shopping enjoyment construct reveal a bad fit. Three

items (#1, #2 and #7) are eliminated and the improvement of chi-square and goodness-of-fit indices recorded. The final model of shopping enjoyment consists of 4 items, χ^2 (2) = 8.79, χ^2/df = 4.40, p = 0.01, AGFI = 0.91. Two items are deleted from the original 6-item innovativeness construct. The remaining 4 items have a good fit, χ^2 (2) = 2.06, χ^2/df = 1.03, p = 0.36, AGFI = 0.98. Risk aversion consists of three items, χ^2 (1) = 0.94, χ^2/df = 0.94, p = 0.33, AGFI = 0.99. Finally, the 4-items of the future intentions construct give a weak result. Item 1 is deleted to improve the model fit, χ^2 (1) = 5.66, χ^2/df = 5.66, p = 0.017, AGFI = 0.91. The majority of χ^2/df ratio in this paper fall within a reasonable range Marsh and Hocevar (1985) suggest. The AGFIs, as applied to the removed-item models, are at the level of 0.90, now reflecting an excellent fit (Bentler 1992). The final measurement models show acceptable RMR coefficients and RMSEA values (Anderson and Gerbing 1984).

Data Analyses and Hypotheses Testing

The study includes applying a partial least squares (PLS), which is a second generation multivariate analysis technique (Bart, Bontis, and Taggar 2001; Grace and O'Cass 2004), to the causal path modeling segment of this study. The PLS approach is the most suitable for this complex conceptual relationship framework because it allows models with little theoretical background to be tested for empirical relationships. PLS results are divided into two parts, the assessments of the outer and inner relationships. Outer relations measurement models are relationships between observed indicators and latent constructs. Inner relations or structural paths are relationships among different constructs.

Outer Relations – Measurement Models

PLS provides factor loading results, which are important for the predictive validity of the scales. Using PLS, loadings of greater than 0.71 should be achieved, and for model development 0.50 or 0.60 is acceptable. Composite reliabilities of 0.70 or above demonstrate the internal consistency of the measurement model. This study shows composite reliabilities of 0.72 to 0.95. Additionally, the average variances extracted (AVEs) range from 0.41 to 0.91, which meet minimum requirements (Chin 1998). With acceptable levels of AVEs and average composite reliabilities, one may conclude that construct

reliability of the measurement model has been established. Moreover, the very strong measurement model results reveal that the PLS is in line with the CFA. Table 3 summarizes the key indices of the measurement models.

--Take in TABLE 3—

Inner Model - Hypotheses Testing

PLS can evaluate theoretical hypotheses as well as indicate the existence of relationships for further testing (Chin, Marcolin, and Newsted 2003). PLS can be used in estimating latent structural models that are indirectly observed by multiple indicators for theory testing and development as well as offering predictive applications (Anderson and Gerbing 1988; Wold 1981). The focus of the assessments of structural paths in PLS is on the inner model and the significance of the paths can be measured by bootstrapping critical ratios, or t-statistics, which are acceptable at a level greater than 1.96 (Chin 1998) at $p < 0.05$ or 2.33 at $p < 0.01$, and the index of variance in endogenous variables explained by the path should be greater than 0.015. The fit indices of the individual R^2 greater than 0.10 are necessary for the predictive relevance of the model (Fornell and Cha 1994). As the purpose of this paper is to examine conceptual relationships among constructs, not to determine a theoretical framework, values of R^2 may be of only moderate concern. The results of path coefficients, variance due to paths, R^2 and *t*-statistics are reported in Table 4.

-- Take in TABLE 4 --

Findings and Their Interpretations

PLS tests twelve hypothesized relationships and indicates that eight are statistically significant. The results show that time pressure has a positive and strong relationship with the mediating variable, risk aversion ($\beta = 0.50$, $t = 11.05$). Price signaling and innovativeness have negative relationships with risk aversion ($\beta = -0.12$, $t = 1.96$ and $\beta = -0.19$, $t = 2.56$, respectively). Shopping enjoyment is also positively related to risk ($\beta = 0.13$, $t = 2.44$). Hence, H_1 to H_4 are supported by the data. Somewhat unexpectedly, risk does not play a mediating role in shopping behavior ($\beta = 0.02$, *ns*), so the findings do not support H_5.

The direct effects between shopping behavior and its five antecedents are then explored. Our PLS analysis shows two significant and positive relationships. Risk aversion, price signaling and time pressure are not statistically related to the hypermarket grocery shopping behavior construct (β = 0.02, *ns*; β = -0.15, *ns*; β = -0.03, *ns* respectively). Hence, H_5 to H_7 are not supported by the analysis. Innovativeness and shopping enjoyment contribute to shopping behavior (β = 0.17, t = 2.07 and β = 0.15, t= 2.19, respectively). The findings support hypotheses 8 and 9. In turn, the findings support H_{11}, a test of the relationship between shopping behavior and future shopping intentions (β = 0.17, t = 3.25), without the mediating role of trust (β = 0.09, ns). In respect of the insignificant results relating to trust and shopping behavior, H_{10} is rejected. Finally, trust is shown to be positively related to future shopping intentions (β = 0.47, t = 8.99), thus supporting H_{12}.

As this paper aims to help us understand some of the psychological factors which contribute to hypermarket shopping behavior patterns, the finding of the minimal indirect effect of risk aversion does have a certain candle power. Thus, shoppers facing high time pressure during grocery shopping also evince high risk aversion. The more shoppers take pleasure in shopping at hypermarkets, the more they can avoid risk. Moreover, shoppers who look for or try new items are less likely to be risk averse. Another relevant finding is the negative relationship between using price to signal quality and risk aversion.

Hypermarket grocery shopping behavior is strongly and positively related to future shopping intentions. The relationship established here applies to behavioral elements of hypermarket grocery shopping and to the intentions to recommend their regular hypermarket to their friends. This study does not find a significant role of trust as a mediating variable between shopping behavior and future store patronage intentions. Although this finding does contradict some earlier studies (e.g., Wong and Sohal 2002), this finding is important. Trust is an extremely high powered concept, but not one with which Bangkok Thai grocery shoppers easily associate (Gulid 2007).

Implications and Conclusions

Location convenience is cited as important for retailing success. When a market is replete with stores, in some cases literally with hypermarkets competing next door to each other, as they often do in Bangkok, then the key question becomes what drives store choice? As time pressure increases because of greater urbanization, consumers may choose particular stores because of their familiarity with layout and other individual reasons. In contrast to many grocery shoppers from time-pressured markets, Bangkok Thais tend to be more driven by convenience motivations. Convenience-seeking customers tend to exhibit a behavior pattern that includes more frequent re-purchases or increased visits to a particular store location (Chandon, Wansink, and Gilles 2000). Convenience of access is largely related to location, but can also be influenced by other factors, such as opening hours. Modern retail stores find it increasingly more difficult to differentiate themselves on features such as price, quality or product range. They now tend to compete for convenience of store location, and many are launching additional smaller store formats, such as Tesco Lotus Express and Mini Big C. Convenience may also mean a store with easy access to mass transit transportation. And, because of a general lack of enforced zoning laws, hypermarkets are mostly located in town.

In the retail grocery category, shoppers enjoy a fairly wide repertoire of outlets in their grocery shopping as Table 2 shows. This poses the competitive challenge as to how a store can win a greater share of aggregate shopping expenditure within a shopper's established store repertoires. In an Asian setting with extended families and tight social networks being an integral part of the grocery experience (Mandhachitara, Shannon, and Hadjicharalambous 2007), word of mouth for outlets may be more powerful than in many Western markets. Also, the results of Myer-Waarden's (2007) study support the growing volume of literature, showing that loyalty schemes do work for a time in increasing share of grocery purchase.

Aside from loyalty schemes, retailers should understand that in collectivist cultures shopping tends to be a group activity, which may influence consumer behavior due to concern for face and status. In markets with cultures that value price consciousness, such as the Chinese, whose shopping behavior may

also be driven by desire for low prices. In Asia, concern for face and status may drive consumers to use price signaling and repeat patronage of well-known brands. If Bangkok Thais are more risk averse than Western shoppers, they are less likely to buy a private label brand, especially when shopping with others. Shoppers who are innovative and enjoy shopping may still be cautious of maintaining face and status, thus may be more likely to try line extensions of known brands than something completely new. As few consumers are cognizant of prices, and it seems many use price as a signal for quality, perhaps retailers should refrain from a heavy focus on low price and seek other ways to motivate consumers, such as through a more enjoyable shopping environment. Shopping enjoyment is found to be important in this research, thus future work may explore the factors that enhance shopping enjoyment. Trust is a very important concept as an antecedent of satisfaction, loyalty, and also a consequence of behavior. Consumers' trust likley increases the likelihood of the purchase of private label brands. Trust enhances loyalty most likely due to being a known solution that is socially acceptable, in terms of shopping behavior, but to what extent would this represent store loyalty, or brand loyalty to products? Possible antecedents of trust and using trust as a consequence may be tested in the multi-channel domain. Future work may also explore consumer repertoires in more detail.

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FIGURE 1: Path Analysis for Hypothetical Retail Grocery Shopping Model

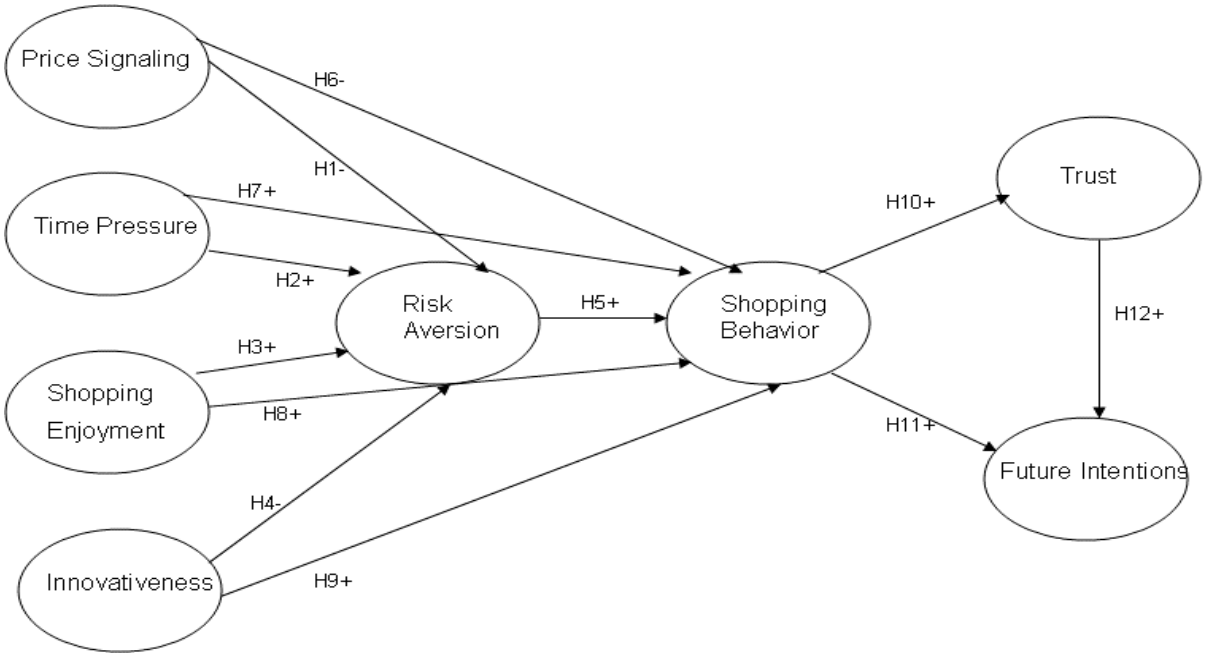

TABLE 1: Bangkok Grocery Retail Stores and Market Share 1999 and 2006

	Number of Stores		Share of Market (%)	
	1999	2006	1999	2006
Type of Store				
Hypermarket	24	174	49	60
Supermarket	43	114	15	10
Convenience Store	1,500	6,310	9	13
Mom & Pop Store	200,500	125,000	18	9
Fresh Market	195	210	8	8
Total	202,262	131,808	100.0	100.0

Source: Adapted from AC Nielsen and Trade Sources

TABLE 2: Pair-wise Comparison of Shopping Behavior Measures (t-tests)

	Means			Pair wise	t-value	t-value	t-value
Retail Format	Shopping Frequency (times)	Length of Time (minutes)	Amount Spent (US$)		Shopping Frequency	Length of Time	Amount Spent
Hypermarket (1)	5.4	108.3	38.4	1:2	6.2***	11.3***	9.2***
Supermarket (2)	3.3	34.0	10.9	1:3	1.7 (ns)	17.6***	12.4***
Convenience Store (3)	4.8	6.3	1.7	1:4	9.7 ***	11.4***	12.7***
Mom & Pop (4)	4.9	10.8	0.9	1:5	0.9 (ns)	16.8***	12.0***
Fresh Market (5)	2.1	15.3	3.2	2:3	-4.6***	10.8***	8.4***
				2:4	-3.3**	4.5***	9.1***
				2:5	3.5***	-1.7 (ns)	6.6***
				3:4	1.3 (ns)	-1.2 (ns)	4.1***
				3:5	8.8***	-9.2***	-3.1**
				4:5	-3.2**	-7.9***	-50.0**

Note: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

TABLE 3: Summary of Key Indices of Measurement Models

Constructs	AVE	Composite Reliability	Cronbach's Alphas
Price Signaling	0.48	0.78	0.73
Time Pressure	0.43	0.72	0.62
Shopping Enjoyment	0.68	0.89	0.84
Innovativeness	0.41	0.72	0.78
Risk Aversion	0.73	0.89	0.81
Shopping Behavior	0.65	0.85	0.51
Trust	0.91	0.95	0.76
Future Intentions	0.63	0.84	0.78

TABLE 4: Results of Hypotheses Testing

Predicted Variables	Predictor Variables	Hypothesis	Path Weight	Variance due to Path	R^2	Critical Ratio	
Risk Aversion	Price Signaling	H_1-	-0.12			1.96	Supported
	Time Pressure	H_2+	0.50			11.05	Supported
	Shopping Enjoyment	H_3+	0.13			2.44	Supported
	Innovativeness	H_4-	-0.19	0.35		2.56	Supported
Shopping Behavior	Risk Aversion	H_5+	0.02			0.19	Not Supported
	Price Signaling	H_6-	-0.15			1.12	Not Supported
	Time Pressure	H_7+	-0.03			0.29	Not Supported
	Shopping Enjoyment	H_8+	0.15			2.19	Supported
	Innovativeness	H_9+	0.17	0.69		2.06	Supported
Trust	Shopping Behavior	H_{10}+	0.09			1.37	Not Supported
Future Intentions	Shopping Behavior	H_{11}+	0.17	0.01		3.25	Supported
Future Intentions	Trust	H_{12}+	0.47	0.26		8.99	Supported
					0.19		

Appendix Table 1: Grocery Shopping Motivational Items

Constructs	Variable Names	Items
Price Signaling	PS1	People notice when you buy the most expensive brand of a product.
	PS2	Buying a high price brand makes me feel good about myself.
	PS3	I think others make judgments about me by the kinds of products and brands I buy.
	PS4	The higher the price, the higher the quality
	PS5	The more famous the brand name of a grocery item, the better the quality.
Time Pressure	TP1	I prepare a shopping list before going grocery shopping.
	TP2	It is important that I find exactly what I want in the least amount of time.
	TP3	I am too busy to enjoy shopping.
	TP4	I only go shopping when I have to.
	TP5	I know what products I am going to buy before going grocery shopping
	TP6	When I go shopping, I find myself spending very little time checking out new products and brands.
Shopping Enjoyment	ENJ1	Shopping is fun.
	ENJ2	I enjoy buying from people I know
	ENJ3	Compared to other stores, I am very satisfied with this store.
	ENJ4	My shopping experiences at this store have always been pleasant.
	ENJ5	I feel good when I shop at this store.
	ENJ6	This store gives me pleasure.
	ENJ7	I accomplished just what I wanted on this shopping trip.
Innovativeness	INN1	I often seek out information about new products/brands.
	INN2	I like to go places where I will be exposed to new products.
	INN3	I frequently look for new products/services.
	INN4	When I see a new or different brand, I pick it up just to see what it is like.
	INN5	I tend to think about alternative a great deal before I buy things.
	INN6	Comparison of overall prices charged for similar products at other store types.
Risk Aversion	RA1	I would rather be safe than sorry.
	RA2	I avoid risky things.
	RA3	I want to be sure before I purchase anything.

Appendix Table 2: Confirmatory Factor Analysis

	χ^2	df	P	χ^2/df	GFI	AGFI	RMR	RMSEA
Price Signaling								
Model 1 – all 5 items included	18.9	5	0.00	3.77	0.97	0.91	0.06	0.11
Model 2 - delete item 5	2.0	2	0.36	1.02	0.99	0.98	0.02	0.01
Time Pressure								
Model 1 – all 6 items included	54.3	9	0.00	6.04	0.93	0.83	0.13	0.14
Model 2 – delete item 1	14.9	5	0.01	2.98	0.98	0.93	0.07	0.09
Model 3 – delete item 5	0.9	2	0.63	0.46	0.99	0.99	0.02	0.00
Shopping Enjoyment								
Model 1 – all 7 items included	30.6	14	0.01	2.19	0.96	0.93	0.08	0.07
Model 2 – delete item 1	17.3	9	0.04	1.92	0.98	0.94	0.04	0.06
Model 3 – delete item 2	11.0	5	0.05	2.20	0.98	0.95	0.02	0.07
Model 4 – delete item 7	8.8	2	0.01	4.40	0.98	0.91	0.02	0.12
Innovativeness								
Model 1 – all 6 items included	10.5	9	0.31	1.17	0.99	0.97	0.03	0.03
Model 2 – delete item 6	3.8	5	0.58	0.76	0.99	0.98	0.02	0.00
Model 3 – delete item 5	2.1	2	0.36	1.03	1.0	0.98	0.02	0.01
Risk Aversion								
Model 1 – all 3 items included	0.9	1	0.33	0.94	1.0	0.99	0.03	0.00
Future Intentions								
Model 1 – all 4 items included	70.9	2	0.00	35.42	0.88	0.42	0.17	0.38
Model 2 – delete item 1	5.7	1	0.02	5.66	0.99	0.91	0.04	0.13

Appendix Table 3: PLS Factor Loadings

	Loadings
Price Signaling (AVE = 0.48, Composite Reliability = 0.78, α = 0.73)	
People notice when you buy the most expensive brand of a product.	.411
Buying a high price brand makes me feel good about myself.	.697
I think others make judgments about me by the kinds of products and brands I buy.	.800
The higher the price, the higher the quality	.782
Time Pressure (AVE = 0.43, Composite Reliability = 0.72, α = 0.62)	
It is important that I find exactly what I want in the least amount of time.	.677
I am too busy to enjoy shopping.	.727
I only go shopping when I have to.	.828
When I go shopping, I find myself spending very little time checking out new products and brands.	.187
Shopping Enjoyment (AVE = 0.68, Composite Reliability = 0.89, α = 0.84)	
Compared to other stores, I am very satisfied with this store.	.835
My shopping experiences at this store have always been pleasant.	.839
I feel good when I shop at this store.	.817
This store gives me pleasure.	.799
Innovativeness (AVE = 0.41, Composite Reliability = 0.72, α = 0.78)	
I often seek out information about new products/brands.	.611
I like to go places where I will be exposed to new products.	.689
I frequently look for new products/services.	.772
When I see a new or different brand, I pick it up just to see what it is like.	.424
Risk Aversion (AVE = 0.73, Composite Reliability = 0.89, α = 0.81)	
I would rather be safe than sorry.	.884
I avoid risky things.	.818
I want to be sure before I purchase anything.	.820
Shopping Behavior (AVE = 0.65, Composite Reliability = 0.85, α = 0.51)	
Shopping frequency	.824
Length of time spent at the store	.888
Average amount of money spent at the store.	.699
Trust (AVE = 0.907, Composite Reliability = 0.95, α = 0.76)	
I trust this store.	.956
I rely on this store.	.948
Future Intentions (AVE = 0.63, Composite Reliability = 0.84, α = 0.78)	
I discuss good places to shop with friends.	.607
I intend to keep shopping at this store.	.902
I will shop at this store the next time I shop.	.797