Demographics, psychographics, price searching and recall in retail shopping

Dungchun Tsai and Hsiao-Ching Lee

"National Cheng Kung University, Transportation and Communication Management, 1, University Road, Tainan 701, Taiwan, Republic of China; "National Kaohsiung University of Applied Sciences, Department of International Business, 415 Chien Kung Road, Kaohsiung 807, Taiwan, Republic of China

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Retailing environments have gone through physical changes and the Internet revolution which intensifies price search and comparison behaviour, however, what customer characteristics – demographics or psychographics – affect price searching and recall? Further, what changes the relationship between the price-searching tendency and price recall? This research develops a framework that integrates the views of the economics of information and psychosocial returns to address these questions. Through point-of-purchase surveys, this study finds that psychographics affect the price-searching tendency directly while demographics do so indirectly through psychographics. In addition, the price-searching tendency has a positive effect on price recall and this relationship is stronger when consumers buy discounted products. Finally, in contrast to previous research, consumers’ high tendency to search for price and price recall accuracy and confidence are found.

Keywords: demographics; psychographics; price-searching tendency; price recall; price promotion

Introduction

In recent decades, retailing environments have gone through physical changes, such as the increased concentration of retailing stores, intensified competition among stores, the development of self-service, the growth of supermarkets, and the spread of nationwide chain stores (De Kervenoael, Hallsworth, & Clarke, 2006; Greenly & Shipley, 1988) and the use of the internet channel (Donthu & Garcia, 1999). These changes have clearly altered consumer behaviour (De Kervenoael et al., 2006) and make shopping a complex human activity (Greenly & Shipley, 1988). Consumers have to deal with a variety of information from retailers, especially price promotion information. For example, Wal-Mart’s ‘Always low prices’ strategy, and Carrefour’s ‘Low price every day’. These companies extensively advertise their price promotion programmes. Specifically, the prevalent use of the Internet makes price search and comparison more easy and widespread. As a result, consumer price search and comparison becomes an ever important shopping activity in the intensified competitive retailing environments.

Some research questions have arisen as the consumers’ price-searching behaviours become more important. Is price information searched for and remembered by all consumers? If not, what customer characteristics – demographics or psychographics – affect
price search and recall? Do consumers with a stronger price-searching tendency remember the product prices better? What will change the relationship between price-searching tendency and price recall? The answers to these questions are useful for retail managers in order to target the right customer segments to whom they should offer price promotion programmes.

Consumers’ demographics and psychographics are frequently employed to predict their price-searching behaviour (Avery, 1996; Kolodinsky, 1990; Urbany, Kalapurakal, & Dickson, 1996). Although those studies provide evidence that some consumer demographic and psychographic characteristics influence price-searching tendencies, they separately test the direct effects of demographics and psychographics on consumers’ price-searching behaviour. Urbany et al. (1996) propose that while demographics may be correlated with most of the psychographics that influence price searching, demographics do not directly influence price searching. However, they neither specifically show nor empirically test the ways in which demographics correlate with psychographics. Thus, this research attempts to examine whether the effects of demographics on price-searching tendencies are through psychographics and, further, how demographics correlate in detail with psychographics.

Although much previous research examines the relationship between price searching and price recall (Dickson & Sawyer, 1990; Mazumdar & Monroe, 1992), the results are not consistent. Some research shows that consumers’ price recall may vary with product characteristics such as purchase frequency, consumer involvement, the amount of price advertising in the media, and price variability (Dickson & Sawyer, 1990; Estelami, 1998). Thus, product characteristics may be an important influence on the relationship between search and price recall. To our knowledge, no study has yet examined the moderating effect of price promotion (i.e. discounted versus regularly priced products) on the relationship between price-searching tendency and price recall. Thus, we propose that price promotion may play a moderating role in the relationship between the price-searching tendency and price recall. The examination of a possible moderating role of price promotion expands the knowledge within price recall research.

In summary, the main purposes of this research are to examine the mediating effects of psychographics between demographics and price-searching tendency, to verify the relationship between price-searching tendency and price-recall and to investigate the moderating effects of price promotion on the relationship between price-searching tendency and price recall. In order to achieve these goals, this study first develops the conceptual framework concerning the effects of demographics and psychographics on price-searching tendency and, in turn, on price recall. Also, the study incorporates the moderating effects of price promotion on the relationship between price-searching tendency and price recall. Next, after a review of the related literature, research hypotheses are proposed. Then, the data collection procedures are described, hypotheses tested, and the research results explained. Finally, a summary of findings and their implications for researchers and retail managers concludes the paper.

**Literature review and hypothesis development**

**Price-searching tendency**

Price searching is important for consumers in making purchase decisions because they can save effort by such searching (Krishna, Currim, & Shoemaker, 1991). Based on Urbany et al. (1996), this study defines a price-searching tendency as the tendency to obtain and compare the product prices of competitive brands and stores. Mazumdar and Monroe (1992) indicate two kinds of price-searching behaviours, namely inter-store and in-store...
price comparison. They further state that the objective of the former is to remember a certain store’s price and to compare it with prices at other stores, while the latter is to check prices in order to make purchase decisions. This study examines both kinds of price searches because both stimulate the processing of price information.

Two perspectives can explain why consumers search for price information. One is the economics of information (EOI) proposed by Stigler (1961) and the other is the view of psychosocial returns (Avery, 1996; Kolodinsky, 1990; Urbany et al., 1996). In the assumptions of classic economics, all consumers are rational and have complete information to make their purchase decisions. However, in reality no single consumer has complete information about market prices. Thus, the EOI framework emphasises that not all consumers will be perfectly informed about marketplace alternatives because each consumer places a different value on the costs of, and returns from, searches (Urbany, 1986). It further indicates that consumers will continue to search for price information until the marginal cost of gathering more information equals or exceeds the marginal return.

Although the EOI framework provides an important foundation for understanding consumers’ price-searching behaviours, there are still some limitations in applying it. First, the framework assumes that consumer search behaviour is primarily driven by both cost and benefit factors and does not incorporate many non-economic factors (Avery, 1996; Kolodinsky, 1990; Urbany et al., 1996). Second, the application of the EOI framework to less structured purchase decisions (e.g. frequently purchased and non-durable goods) lacks clear theoretical predictions (Avery, 1996). Besides the costs/benefits consideration, some consumers derive great pleasure from shopping (Jin & Sternquist, 2004). Price searching brings consumers psychological happiness and satisfaction (Urbany et al., 1996). Those psychosocial returns include shopping enjoyment (Kolodinsky, 1990; Marmorstein, Grewal, & Fishe, 1992) and social returns from providing information to others (Feick & Price, 1987; Urbany et al., 1996). Thus, the psychosocial return is another important driver that encourages consumers to search for price information (Avery, 1996; Kolodinsky, 1990; Urbany et al., 1996).

The relationships among demographics, psychographics, and price-searching tendency

Based on previous studies (Kolodinsky, 1990; Urbany et al., 1996), this research uses household income, age, and gender as indicators of demographics. As for psychographics, Ailawadi, Neslin, and Gedenk (2001) divide these into two groups. One concerns economic/utilitarian benefits from searches, such as price consciousness and perceived financial constraints. Based on prior research, price consciousness can be defined as the degree to which the consumer focuses exclusively on paying low prices (Lichtenstein, Ridgway, & Netemeyer, 1993). Perceived financial constraints are the extent to which consumers feel that their budgets are always tight and they have problems making ends meet (Ailawadi, et al., 2001; Urbany et al., 1996).

The other group of psychographics is associated with hedonic/psychosocial benefits from searches, such as being a market maven and enjoying shopping activities. Previous research, however, (Grewal & Marmorstein, 1994; Urbany et al., 1996) shows that shopping enjoyment does not significantly influence price searching because it correlates with economic benefits and its influence is diluted (Urbany et al., 1996). Thus, this research chooses only market mavenism as the indicator of psychographics. Market mavens are persons with a tendency to collect marketplace information and share information with other people (Feick & Price, 1987; Lichtenstein et al., 1993; Urbany et al., 1996).
The influences of demographics on psychographics

Both Ailawadi et al. (2001) and Urbany et al. (1996) indicate that some demographics highly correlate with psychographics. These relationships between demographics (e.g. household income, age, and gender) and psychographics (e.g. price consciousness, perceived financial constraints, and market mavenship) are discussed as follows. First, this research expects income to have a negative relationship with price consciousness and perceived financial constraints. Lower-income consumers do not have enough money to spend. Thus, they will be more sensitive to price variations and have greater price consciousness. In addition, lower-income consumers’ living expenditures comprise a larger proportion of their income, so they always have tight budgets and problems making ends meet. Thus, lower-income consumers’ perceived financial constraints will be greater than those of higher-income consumers (Hoch, Kim, Montgomery, & Rossi, 1995).

Second, Urbany et al. (1996) indicate that consumers of different ages vary in their search costs, economic returns, attitudes toward thrift, and vigilance in shopping. Moreover, on average, wages and disposable income are positively associated with age. Thus, we propose that young consumers’ perceived financial constraints will be greater than those of older consumers.

Third, we expect that females have a greater tendency to be market mavens than males. Research shows that females are more likely to enjoy shopping than males (Ailawadi et al., 2001; Feick & Price, 1987). In addition, females gain more social returns from sharing price information with one another.

The influences of psychographics on price searching tendency

The effects of price consciousness, perceived financial constraints, and market mavenship on price-searching tendency are discussed as follows. First, consumers with high price consciousnesses are sensitive to prices and regard purchasing low-priced products as being important (Ailawadi et al., 2001; Monroe, 1990). Therefore, this research expects that highly price-conscious consumers are eager to search for price information in order to save money.

Second, consumers with financial constraints have to spend their money carefully for fear of incurring debt. In addition, Urbany et al. (1996) indicate that consumers will have greater incentives to search for lower prices when their financial constraints are high. Thus, this research expects that perceived financial constraints are positively related to price-searching tendency.

Third, psychosocial returns motivate consumers to be market mavens (Urbany et al., 1996). In other words, by collecting price information to share with other people, market mavens gain social returns and happiness. In addition, market mavens are positively associated with some price-searching behaviours such as greater coupon use (Price, Feick, & Guskey-Federouch, 1988) and greater direct mail and local advertisement reading (Higie, Feick, & Price, 1987). Thus, this research expects that market mavenship positively influences price-searching tendency. This research proposes the following hypotheses:

\( H1: \) Psychographics mediate the relationship between demographics and price-searching tendency.

\( H1a: \) Household income is negatively related to price consciousness and perceived financial constraints.

\( H1b: \) Age is negatively related to perceived financial constraints.

\( H1c: \) Females have a greater tendency to be market mavens than males.
Price consciousness is positively related to price-searching tendency.

Perceived financial constraint is positively related to price-searching tendency.

Market maven tendency positively relates to price-searching tendency.

Price-searching tendency and price recall

Price recall is usually composed of price recall accuracy and price recall confidence (Biehal & Chakravarti, 1986; Mazumdar & Monroe, 1992; Turley & Cabaniss, 1995). The former is objective price recall, whereas the latter is subjective price recall. Based on Mazumdar and Monroe (1992), this research defines price recall accuracy as the extent to which there are differences between recalled and actual prices. Moreover, price recall confidence is defined as the degree to which consumers are confident about the correctness of the prices they recall.

Although consumers have opportunities to acquire price information, not every consumer pays full attention to price information. Consumers who attend to and process price information more elaborately will have price information more readily accessible at the time of retrieval (Mazumdar & Monroe, 1992). In addition, based on Dickson and Sawyer (1990), the long-term storage of psychological price (i.e. price recall) is affected by the outcome of comparing, contrasting, and assimilating psychological price with the internal reference price and other items’ prices. Thus, this research expects that price-searching tendency positively influences price recall. This research proposes the following hypothesis:

H2: Price searching tendency has positive effects on price recall.

The moderating effects of price promotions

Previous research on price memory (Jacoby & Olson, 1977; Lindsay & Norman, 1972; Shiffrin & Atkinson, 1969) suggests that exposure to repeated price information increases the likelihood of elaboration and rehearsal of price information. In general, the prices of discounted products are frequently advertised (e.g. fliers or in-store advertisements). Research by Dickson and Sawyer (1990) indicates that consumers who buy discounted products have been exposed to prices more frequently because they do more price checking than consumers who buy regularly priced products. In addition, they mention that if the price is constrained and viewed as very low, the price will be evaluated positively and remembered better. They further state, based on a classic behavioural premise, that anything unusual in a choice environment will attract more attention. Hence, a low price will attract consumers’ attention and be enlarged in the consumers’ memories. In summary, the repeated exposure effect and the enlargement effect of discounted prices in consumers’ memories strengthen the relationship between price-searching tendency and price recall when consumers buy discounted products. The following hypothesis is proposed for testing.

H3: Price promotions (discounted versus regular priced products) moderate the effects of price-searching tendency on price recall.

Methodology

Research framework

This research examines the effects of demographics and psychographics on price-searching tendency and, in turn, on price recall. In addition, this research considers
price promotion as a moderator of the relationship between price-searching tendency and price recall. The framework is shown in Figure 1.

**Procedures**

This research conducted an intercept consumer survey to obtain data. Subjects were sampled from a global retailer, namely Carrefour. Following Dickson and Sawyer’s (1990) data collecting procedure, shoppers were interrupted after they had placed their products to be purchased in their cart so as to eliminate any time lag when asking the shopper to recall the price. Observers with clipboards were stationed in retail stores at the point of purchase for particular items. Every 10 min, the observer targeted the first shopper who had chosen one of the target brands. The interviewer first asked whether the shopper was willing to participate in the interview. If s/he agreed, the interviewer asked the subject to recall the price of the product to be purchased and their confidence in recalling the price. After that, they filled in the remaining questionnaire about their price-searching tendency, psychographics and demographics. Finally, the subjects received gifts in return for their participation.

**Product selection**

In order to test the moderating effects of price promotions, this research chose the target products that had some brands that were on sale (i.e. discounted products) and other brands that were not (i.e. regularly priced products) during the same period. After discussion with the wholesale store’s regional and advertising managers, this research chose shampoo and tissue paper as the target product categories because both products are often on sale and bought by everyone.

**Measurement**

Four constructs were measured in this research, namely demographics, psychographics, price searching, and price recall. Most measurement items were adapted from previous research. Table 1 shows the measurement information.

**Demographics**

To measure age, gender, and income, this research used single items (see Table 1).
high involvement and high priced products (Jacoby & Olson, 1977). Moreover, convenient products are less attractive for consumers to buy through the Internet because marketing distribution channels are very prosperous for convenience products, but the high involvement and high-priced products such as preference and shopping products are frequently purchased on-line. Therefore, future research could compare on-line price-search behaviour with conventional price-search behaviour through studying other product categories such as preference and shopping products.

Finally, some other constructs have been investigated in the literature that might be used to expand the model. For example, consumer involvement, purchase frequency, and price variability might affect the accuracy of consumers’ memories in the case of price recall (Estelami & Lehmann, 2001). These constructs, which may affect the relationship between consumer price searching behaviour and price recall, need further investigation. In addition, incorporating other dimensions of price-related experience, such as word-of-mouth, shopping experience (Mägi & Julander, 2005), information collection experience, and environmental factors (e.g. interest rates, unemployment, and economic growth) (Estelami, Lehmann, & Holden, 2001) could also improve the understanding of how other factors influence consumers’ price recall.

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References


