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Exploring consumer value of multi-channel shopping: a perspective of means-end theory

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Abstract

Purpose – With advances in information technology, multi-channel shopping (MCS) has become a prevailing purchasing pattern today. Although MCS provides more benefits than single-channel shopping, there is a need to investigate consumer values in the MCS context. This study aims to develop a consumer value hierarchy that represents how consumers think and pursue when performing MCS.

Design/methodology/approach – The research framework was developed from a perspective of means-end theory. Two studies were designed to elicit and evaluate a consumer value hierarchy of MCS. First, a qualitative study was conducted to explore means-end elements of MCS. Then, a hierarchical value map of MCS was constructed with 314 usable responses from an empirical survey in Taiwan. The impacts of past shopping experience on consumers' value perceptions were also examined.

Findings – In the hierarchical value map (HVM) of MCS, the results indicate 18 means-end chains from ten MCS attributes resulting in nine consequences derived from those attributes, and then to four MCS values. The results also show that both expert and novice shoppers emphasize the utilitarian value of MCS; however, shopping novices pay more attention to the hedonic value of MCS than experts do.

Practical implications – This paper provides several managerial implications for multi-channel retailers. Multi-channel retailers need to know more about the attributes and functions of each channel that they offer in order to create a superior shopping experience for their customers. Also, retailers need to understand different MCS patterns for successful multi-channel customer relationship management. Finally, the consumer value hierarchy of MCS is a useful tool for retailers to develop effective promotion strategies to increase customers' engagement in MCS.

Originality/value – This paper is the first to apply means-end theory to investigate consumer value in the MCS context. It advances the consumer value literature in explaining a novel type of consumer channel-mixing behavior. The paper concludes with implications for multi-channel retailers, and future directions for MCS research are also discussed.

Keywords Online shopping, Consumer value, Multi-channel shopping, Means-end theory, Hierarchical value map, Consumer behaviour, Retailing, Taiwan

Paper type Research paper

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1. Introduction

Multi-channel shopping (MCS) is a purchasing pattern by which consumers use multiple channels, such as internet, catalog, mobile, and brick-and-mortar stores, to make purchases (e.g. Goldsmith and Flynn, 2005; Schoenbachler and Gordon, 2002). With the advances of the internet, more and more MCS is performed through both internet and physical stores. Studies have shown that retailers can receive more profits from multi-channel than single-channel consumers (Kumar and Venkatesan, 2005; Thomas and Sullivan, 2005). Despite that, they may lose customers if they do not understand what consumers really value from MCS (Loftus *et al.*, 2008), leading to the decrease of sales (Yellavalli *et al.*, 2004) and customer satisfaction (Mulpuru, 2009).

Consumer value has been studied in the marketing literature (Reynolds and Gutman, 1988; Vinson *et al.*, 1977). Past research has advocated the importance of consumer value in both offline (e.g. Babin *et al.*, 1994; Holbrook, 1999) and online (e.g. Wolfinbarger and Gilly, 2001) contexts. The fulfillment of consumer value improves the level of consumers' satisfaction with shopping. It is also recognized as a crucial determinant of MCS behavior (Dholakia *et al.*, 2010). Past MCS research has highlighted the significance of utilitarian and economic aspects of consumer value (Konuş *et al.*, 2008; Noble *et al.*, 2005). However, there is still a need to explore other aspects of MCS value, for example, enjoyment (Konuş *et al.*, 2008), safety (Alba *et al.*, 1997), and freedom (Schoenbachler and Gordon, 2002). To design the consumer-centric value delivery system, retailers must understand well what shopping values consumer expects to gain (Woodruff, 1997; Woodruff and Gardial, 1996).

In addition, consumer value involves a consumer's evaluation of product attributes and use consequences that facilitate the achievement of his/her goals in use situations (Gutman, 1982). This constitutes a hierarchical structure of consumer value (Bagozzi and Dabholkar, 1994; Woodruff and Gardial, 1996). One plausible theory explaining such kind of structure is the means-end theory, which explains how a product/service purchase facilitates the fulfillment of consumer values (Gutman, 1982; Reynolds and Gutman, 1988). Although the means-end theory is helpful to us in understanding MCS consumer value, the hierarchical structure of the value may be affected by consumers' past shopping experience, in particular for utilitarian and hedonic values (Hammond *et al.*, 1998). In order to track the customers effectively, multi-channel retailers must understand different types of MCS patterns based on consumer shopping experience. However, the influence of shopping experience on consumer values has yet been addressed in the past MCS studies.

The objective of this study is to understand the hierarchical structure of consumer value in the MCS context. This study contributes to existing MCS literature and practice in two important aspects. First, the value hierarchy of MCS helps retailers and researchers to understand the types and origins of MCS values. Second, the moderation effects of past shopping experience enhance our knowledge of different MCS consumer segments and how to communicate to each segment effectively. Specifically, we shall answer the following four research questions:

RQ1. What are the means-end elements of MCS?

RQ2. How do these elements interweave into a means-end hierarchy?

RQ3. What are the dominant means-end chains leading to consumer value?

RQ4. How does past shopping experience moderate consumers' utilitarian and hedonic values of MCS?

The remaining sections of this paper are as follows. First, we review the literature pertaining to consumer value and means-end theory. Then, we provide a means-end model for MCS. Third, we present two studies that elicit means-end elements, construct the hierarchies of MCS, identify the dominant means-end chains, and examine the potential impacts of past shopping experience on MCS values. Finally, we discuss managerial implications, research limitations and future directions.

2. Literature review

2.1 Consumer value

Consumer value plays an important role in marketing and consumer research (Overby *et al.*, 2004; Reynolds and Gutman, 1988; Vinson *et al.*, 1977). While marketing and consumer research provides several conceptualizations of consumer value, consensus exists among several aspects of these definitions. In general, consumer value is:

- perceived by consumers subjectively (Gale, 1994; Sinha and DeSarbo, 1998);
- related to products, services and contexts (Holbrook, 1999; Woodruff and Gardial, 1996);
- a trade-off between benefits and costs (Holbrook, 1994; Zeithaml, 1988); and
- a preference that lies in the heart of the consumption experience (Holbrook, 1999).

Individuals often perform some goal-oriented shopping behaviors in order to achieve their values (Lai, 1995; Sheth *et al.*, 1999). Past studies have recognized that a shopping behavior may be motivated by utilitarian and hedonic values of a consumer (Babin *et al.*, 1994; Baumgartner and Steenkamp, 1996). Utilitarian value indicates that consumers tend to efficiently achieve their goals with minimal investments, whereas hedonic value denotes that consumers emphasize more on joyful aspects, which they experience from the shopping process (Hirschman and Holbrook, 1982). These aspects of consumer value are also important in the context of MCS (Dholakia *et al.*, 2010; Kwon and Jain, 2009). On one hand, MCS allows consumers to obtain product information, seek product assortment, and compare product prices (Noble *et al.*, 2005), which can achieve utilitarian and economic goals. On the other hand, Verhoef *et al.* (2007) suggest that consumers tend to believe that searching in one channel facilitates them to make smart purchase decisions on another channel. Consumers may perceive desirable feelings of being smart shoppers in MCS. Moreover, MCS can be treated as a variety-seeking behavior, which is driven by the hedonic aspect of MCS experience (Kwon and Jain, 2009).

In addition to the dichotomy of utilitarian and hedonic values, other scholars also regard shopping safety and freedom as two important consumer values in the context of MCS (Alba *et al.*, 1997; Schoenbachler and Gordon, 2002; Wolfinbarger and Gilly, 2001). Although the internet is considered convenient for information seeking, it is also considered risky to purchase online due to its inability to touch, feel and experience the product. High shopping risks may attenuate consumers' willingness to shop online. They are likely to perform online-offline channel integration to ensure their safety regarding their purchases. Furthermore, multi-channel marketing is a consumer-centric approach to satisfying new consumers who want to shop

whatever, wherever, and whenever on their own terms (Loewe and Bonchek, 1999). MCS is able to provide such location and time flexibilities compared to single-channel shopping, leading to the fulfillment of consumers' need for freedom.

2.2 Means-end theory

Following the proposition of means-end theory, consumer value is of hierarchical nature (Bagozzi and Dabholkar, 1994; Overby *et al.*, 2004; Woodruff and Gardial, 1996). The theory represents an appropriate approach to examining the hierarchy of consumer value because it focuses on how consumers organize their knowledge and content of attributes, benefits, and values for a specific consumption context, such as perfume purchase (Valette-Florence, 1998), wine consumption (Overby *et al.*, 2004), beverage choices (Gutman, 1984), services (Pieters *et al.*, 1998), and consumer recycling behavior (Bagozzi and Dabholkar, 1994). The premise of means-end theory is consistent with expectancy-value theory (Rosenberg, 1956). The latter denotes that consumers learn to link particular consequences to product/service attributes, which they have reinforced via their shopping behavior (Reynolds and Gutman, 1988; Rosenberg, 1956).

According to means-end theory, there are three levels of abstractions in a means-end chain (Gutman, 1982, 1984):

(1) attributes;

(2) consequences; and

(3) values.

First, attributes are tangible and intangible characteristics of products and services that consumers can directly perceive (Peter and Olson, 2002). Through these characteristics, marketers can know about how consumers evaluate a product/service in order to meet their needs. Second, consequences indicate functional and psycho-social outcomes when goods/services are purchased or used by consumers (Gutman, 1982). Third, the most abstract level is value, which represents the enduring belief guiding numerous actions across different contexts (Lai, 1995). Consumers prefer certain desirable consequences that can facilitate their achievement of terminal and instrumental values (Rokeach, 1973), such as enjoyment, freedom, and success.

In order to explore effectively consumer values underlying MCS, this study first proposes a conceptual model adopted from means-end theory. As shown in Figure 1, our model represents "consumers conceive of desired values in a means-end way" (Woodruff, 1997, p. 142). In the proposed model, the means-end linkage suggests that consumers learn about how attributes generate desired benefits, which in turn leads to consumer values. As the example presented in Figure 1, consumers in the MCS context can obtain different product/service information through multi-channel integration. Product/service information availability appears to be an important attribute of MCS. When acquiring ample product information, consumers can enhance their knowledge about products/services. Such "knowledge growth" can be regarded as a desirable

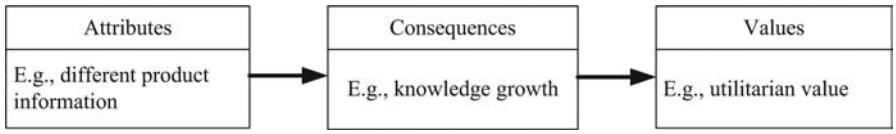

Figure 1.
A means-end model for multi-channel shopping

consequence derived from the attribute of acquiring product/service information. This consequence reflects and satisfies consumers' need for utilitarian value of MCS.

2.3 The moderating role of past experience

The perceptions of utilitarian and hedonic values may depend on a consumer's past experience of shopping (Hammond *et al.*, 1998). Past experience refers to how a consumer has shopped in the past, and it is regarded as a crucial determinant of consumer behavior (Ajzen and Fishbein, 1980; Bagozzi, 1981; Hernández-Ortega *et al.*, 2008). This study operationalizes past MCS experience as the frequencies of cross-channel buying, cross-channel information search, and cross-channel price comparison. Consumers commonly perform these activities in the MCS context, which is consistent with the multi-dimensional nature of shopping experience as suggested by Schoenbachler and Gordon (2002).

This paper will examine the impacts of past shopping experience on utilitarian and hedonic values of MCS. Past experience increases one's accessibility of shopping-specific knowledge in memory (Fazio and Zanna, 1978). Accumulated knowledge from past shopping behavior enables consumer to perform shopping tasks effectively and efficiently (Alba and Hutchinson, 1987). Accordingly, shopping experts who have high level of shopping experiences with MCS will put more emphasis on utilitarian value of information seeking than the novices. On the other hand, Elaboration Likelihood Model (Petty and Cacioppo, 1981) suggests that consumers who have more abilities to judge and process information are less likely to be persuaded by peripheral cues, which are often of hedonic nature (e.g. the attractiveness of a web site or store). Accordingly, the strength of hedonic value of the shopping experts will be lower than that of the novices.

3. Research design

Laddering is a common method to assess means-end chains (Reynolds and Gutman, 1988). It can be classified into two types depending on how the data are collected:

(1) soft laddering using in-depth interviews (e.g. Gutman, 1982; Overby *et al.*, 2004); and

(2) hard laddering using the self-administered pencil and paper questionnaire (e.g. Walker and Olson, 1991; ter Hofstede *et al.*, 1998).

Although laddering interview is helpful to elicit means-end structure of consumer behavior (Gutman, 1984), this approach faces numerous shortcomings that restrict its extension, especially the representativeness of the sample (Vriens and ter Hofstede, 2000). As a result, prior research developed alternative methods to quantify means-end chains in large-scale surveys (e.g. ter Hofstede *et al.*, 1998). From an integrative view, Vriens and ter Hofstede (2000) recommend a two-stage method to investigate means-end chains by combining two laddering techniques. This study follows their suggestion to design two studies for eliciting and assessing the value hierarchy of MCS.

Following Reynolds and Gutman (1988), the procedure of analyzing laddering data involves four steps:

(1) identifying the means-end elements;

(2) constructing an implication matrix;

(3) establishing a hierarchical value map, HVM; and
(4) determining the dominant value chains.

For research design, this study conducted laddering interviews in Study 1 to elicit and determine consumers' means-end knowledge about MCS, and subsequently executed a large-scale survey in Study 2 to construct an implication matrix for developing an aggregate HVM of MCS and determining the dominant mean-end chains for each value and examine the moderating effects of past experience.

4. Study 1: eliciting means-end elements

4.1 Laddering interview

According to several studies using the laddering technique (Gutman, 1984; Vriens and ter Hofstede, 2000), approximately 30 participants are adequate for determining most means-end elements. Thus, this study selected a total of 30 college-educated consumers with MCS experiences for laddering interviews. Among these consumers, there were 16 males and 14 females whose ages range between 20 to 56 years old (Mean = 25.43, S.D. = 6.27). Although multi-channel shoppers appears to be young (Zender Group, 2006), we still include some older interviewees. To interview MCS consumers at different ages can collect more diverse MCS experiences and opinions that allow us to elicit means-end elements of MCS effectively. The process began with focus group interviews to gather a wide range of consumer thoughts toward MCS. After completing the third focus group interview, the findings contributed marginally to eliciting new elements in comparison to the results of the first two group interviews. Thus, the interview process was concluded with three sessions of focus group interviews with an average of six participants per group for this study. According to Fern (1982), focus group interviews tend to generate fewer significantly high-quality ideas than individual interviews. In order to overcome this deficiency, this study continued to collect 12 individual interviews to identify more meanings and ladders pertaining to MCS experiences.

Each interview lasted from 1 to 1.5 hours, which were tape-recorded and transcribed. In both group and individual interviews, this study utilized Reynolds and Gutman's (1988) free-eliciting technique to evoke participants' memories of MCS. The interview procedure started from numerous basic inquiries about consumers' perceptions and experiences of MCS, followed by more abstract questions like how they think and feel while buying across multiple channels, and finally guided the interviewees to assess the relations of MCS with their shopping values. In each interview, this study frequently asked a free-eliciting question suggested by Reynolds and Gutman (1988), "why is that important to you," to uncover and determine the laddering sequence between means-end elements.

4.2 Results

Two independent coders performed content analysis of the qualitative laddering data. Based on definitions of three means-end levels in the proposed framework, this study extracted and coded a number of elements from interviews, and then classified them by level. The intercoder reliability of content analysis is 80 percent, which is above the acceptable level of 70 percent suggested by Krippendorf (1980). Disagreements were resolved by consensus among two independent coders and two professors in order to classify all elements.

The findings elicited a total of 23 elements. Of the MCS attributes, ten refer to the shopping characteristics which consumers perceive while making their purchasing decisions in a MCS setting, including expanding geographical accessibility (A1), flexible service time (A2), immediate need fulfillment (A3), optimizing purchase decision (A4), ample product information (A5), diverse product selections (A6), various service interactions (A7), expanding contacts with consumers (A8), ease of transaction checks (A9), and location-based channel selection (A10). Nine MCS consequences refer to the expected outcomes and benefits that consumers receive when performing MCS, such as knowledge growth (C1), facilitating decisions (C2), money saving (C3), location convenience (C4), time saving (C5), transaction confidence (C6), personalized services (C7), increasing personal control (C8), and fast problem-solving (C9). Four MCS values refer to the goals that consumers achieved through their MCS, including pragmatism (V1), enjoyment (V2), safety (V3), and freedom (V4). Appendix 1 exhibits the contents and definitions of all elements.

The results of Study 1 provided a comprehensive list of means-end elements underlying MCS. These MCS attributes, consequences, and values are sufficient to represent most purchasing decisions that concern consumers during MCS. It may be argued that negative outcomes are likely to occur in the MCS process. The MCS consequences also reflect the undesirable outcomes in a positive way due to consumer tendency to seek benefits and avoid risk (Gutman, 1982). For example, much information consumers receive through MCS may cause information overload. In fact, product-related information obtained from MCS seems complementary and helps consumers to make their purchasing decisions. If information overload happens, this condition will be reflected by the consequence of facilitating the decision process with a low value in this element.

5. Study 2: constructing means-end hierarchy

5.1 Survey subjects

To gather data necessary for assessing the means-end model, this study first contacted several multi-channel retailers including e-retailers, bookstores, and travel agents for their help in data collection. After sending a statement of research purposes to these retailers, they offered in total of 500 multi-channel consumers who agreed to participate in the study. In order to select adequate respondents, this study directly e-mailed these voluntary participants a brief research invitation, which attached one questions about their MCS experiences in the past three months. After all invitations returned, those who did not perform MCS recently were excluded, which left 350 qualified subjects to survey.

Research questionnaires were sent to the qualified respondents via email and 331 returns were received. After dropping 17 incomplete questionnaires due to missing values, a total of 314 usable cases were obtained. Table I summarizes their demographic characteristics. The education levels of the respondents were at or above college level; most of them (77.07 percent) aged below 30 years old. According to Kumar and Venkatesan (2005) and Zendor Group (2006), young and well-educated online shoppers tend to be multi-channel shoppers, in support for the sample relevance in study 2 (Sackett and Larson, 1990). Additionally, we examined non-response bias between early- and late-response groups. None of t-test analyses showed significant differences on the frequencies of cross-channel transactions ($p > 0.01$), product searching ($p > 0.05$), and price comparison ($p > 0.01$) between these two groups of respondents.

	(%)
Gender	
Male	45.86
Female	54.14
Education	
College	56.37
Graduate school	43.63
Age	
< 25 years	49.04
26 ~ 30 years	28.03
31 ~ 35 years	13.69
36 ~ 40 years	5.41
> 41 years	3.82
Occupation	
Student	49.04
Manufacture	16.88
Service	28.67
Others	5.41
Income per month	
< NT$10,000	41.40
NT$10,001 ~ 30,000	13.69
NT$30,001 ~ 50,000	30.89
> NT$50,001	14.02
Product frequently purchased	
Books/CDs	17.83
3C products	21.02
Sports goods	14.01
Beauty products	10.19
Airline tickets	7.32
Others[a]	29.63
Spending in the past three months	
< NT$2,500	49.36
NT$2,501-7,500	28.34
NT$7,501-12,500	9.55
> NT$12,501	12.75

Notes: $n = 314$; [a]including 12.42 percent missing values

Table I.
The demographics of subjects

5.2 Survey instrument

This study incorporated the three means-end levels of Study 1 into the conceptual model for quantitative assessment. The questionnaire of Study 2 consisted of four parts. The first part asked participants to report their past experiences of MCS, such as multi-channel usage and expenditures. The second part, following ter Hofstede *et al.* (1998) method, asked the respondents to give a perceived importance score on each attribute (from 1 "not important" to 10 "very important"). In the third part, the respondents continued to specify association strength between attribute and consequence as well as between consequence and value (from 1 "not associated" to 10 "strongly associated"). This process resulted in two matrices of attribute-consequence (AC) and consequence-value (CV) associations, where the

10×9 AC association matrix comprised ten attributes listed in the columns and 9 consequences in the rows; and the 9 x 4 CV association matrix consisted of nine consequence columns and four value rows (cf. ter Hofstede *et al.*, 1998). To explain each element better, this study provided an example of each element to the participants. For example in item (A6) of diverse product selections, the participants were given the statement of "Because of simultaneous use of internet, catalogs, and physical stores, I can browse all kinds of products, even those which I have never seen in a store." Finally, the last part asked each subject to report his/her demographic information.

5.3 Data analysis

This study adopted the collective average approach to analyzing the survey data at the aggregate level (Bougon *et al.*, 1977) instead of the probabilistic approach at the segment-based level (ter Hofstede *et al.*, 1999; Vriens and ter Hofstede, 2000). Following the collective average method in numerous means-end chain studies (Chiu, 2005; Houston and Walker, 1996), this study computed the average of the importance weight for each MCS attribute, using the following equation:

$$IA_i = \left[\left(\frac{\sum_{n=1}^{N} PI_{in}}{N} \right) \div 10 \right]$$

The score indicates the degree to which consumers perceive an attribute of MCS as important, where i = the number of attributes, ranging from 1 to 10; N = the number of selected subjects (i.e. 314); PI_i = the perceived importance of an attribute i; $\mathrm{IA_i}$ = the importance weight of an attribute i, $0.1 \leq IA_i \leq 1.0$.

Next, this study utilized the association strengths to calculate each linkage in the AC and CV matrices (see Appendix 2) by utilizing the following formulas:

$$AW_{ij} = \left[\left(\frac{\sum_{n=1}^{N} A_{in} C_{jn}}{N} \right) \div 10 \right]$$

The score denotes the strength of the relationship between an MCS attribute and an MCS consequence, where i = the number of attributes, ranging from 1 to 10; j = the number of consequences, ranging from 1 to 9; $N = 314$ respondents; $A_i C_j$ = the association weight between the attribute i and the consequence j; $\mathrm{AW_{ij}}$ = the average strength of association between the attribute i and the consequence j, $0.1 \leq AW_{ij} \leq 1.0$:

$$AW_{jk} = \left[\left(\frac{\sum_{n=1}^{N} C_{jn} V_{kn}}{N} \right) \div 10 \right]$$

The score represents the strength of the relationship between an MCS consequence and an MCS value, where j = the number of consequences, ranging from 1 to 9; k = the number of values, ranging from 1 to 4; $N = 314$ respondents; $C_j V_k$ = the association weight between the consequence j and the value k; $\mathrm{AW_{jk}}$ = the average strength of association between the consequence j and the value k, $0.1 \leq AW_{jk} \leq 1.0$.

Finally, this study computed the weighted strength of a means-end chain to demonstrate the strength of each value direction in the means-end hierarchy, utilizing the formula:

$$VC_{i.j.k} = IA_i \times (AW_{ij} + AW_{jk})$$

The score indicates the strength of the linkage from an attribute to an consequence to an value, where $VC_{i.j.k}$ = the weighted strength of the chain that linked the attribute i, the consequence j, and the value k; IA_i = the importance weight of an attribute i; AW_{ij} = the association weight between the attribute i and the consequence j; AW_{jk} = the association weight between the consequence j and the value k.

While constructing the HVM, this study calculated the importance weight of value elements by using the formula as follows:

$$IV_k = \sum_{j=1} \left(\sum_{i=1} W_{ij} IA_i \right) \cdot W_{jk}$$

The score depicts the degree to which consumers perceive an MCS value as important, where IV_k = the importance weight of a value k; IA_i = the importance weight of an attribute i; W_{ij} = the association weight between the attribute i and the consequence j; W_{jk} = the association weight between the consequence j and the value k.

5.4 Results

In this section, this study establishes three value hierarchies of MCS by selecting a cutoff value of 0.70 association weight to eliminate weak linkages (Chiu, 2005; Overby *et al.*, 2004). First, a value-driven hierarchy of MCS is derived from the entire sample, followed by the hierarchical value maps (HVMs) of MCS novices and experts.

5.4.1 A mean-end hierarchy of MCS. Figure 2 shows the HVM of MCS with linkages having significant association weights. At the attribute level, the highest weight (0.83) falls on flexible service time and location-based channel selection. This finding reveals that MCS provides flexibility allowing consumers to purchase whenever they want, as well as accessibility to a shopping channel allowing them to shop conveniently at their locations. At the consequence level, time-saving gets most linkages indicating that consumers expect to reduce their cost of time through MCS. At the value level, most connections are linking to pragmatism, indicating that multi-channel shoppers are motivated to fulfill their needs of purchasing decisions for a pragmatic purpose.

Our results reveal 18 complete means-end chains that directed to MCS values. The dominant linkage among the 12 ACV chains directing to the value of pragmatism is A6 (diverse product selections) → C1 (knowledge growth) → V1 (pragmatism). The weighted strength ($VC_{6.1.1}$) is 1.30 ($= 0.82 \times 1.59$). Second, the strongest linkage among the 5 means-end chains associated with the value of enjoyment is A6 (diverse product selections) → C1 (knowledge growth) → V2 (enjoyment). The weighted strength ($VC_{6.1.4}$) is 1.28. Finally, the only one orientation linking to the value of safety is A9 (ease of transaction checks) → C6 (transaction confidence) → V3 (safety). The weighted strength ($VC_{9.6.2}$) is 1.18.

5.4.2 Testing the moderating effects of past experience. This study uses three questions as a composite index of past MCS experiences to classify multi-channel shoppers into novice and experienced consumers. These questions are about the frequencies of cross-channel transactions, product searching, and price comparison. The measurement scale contains five points of anchors ranging from 1 "the least frequently" to 5 "the most frequently". Using the composite scores of the three

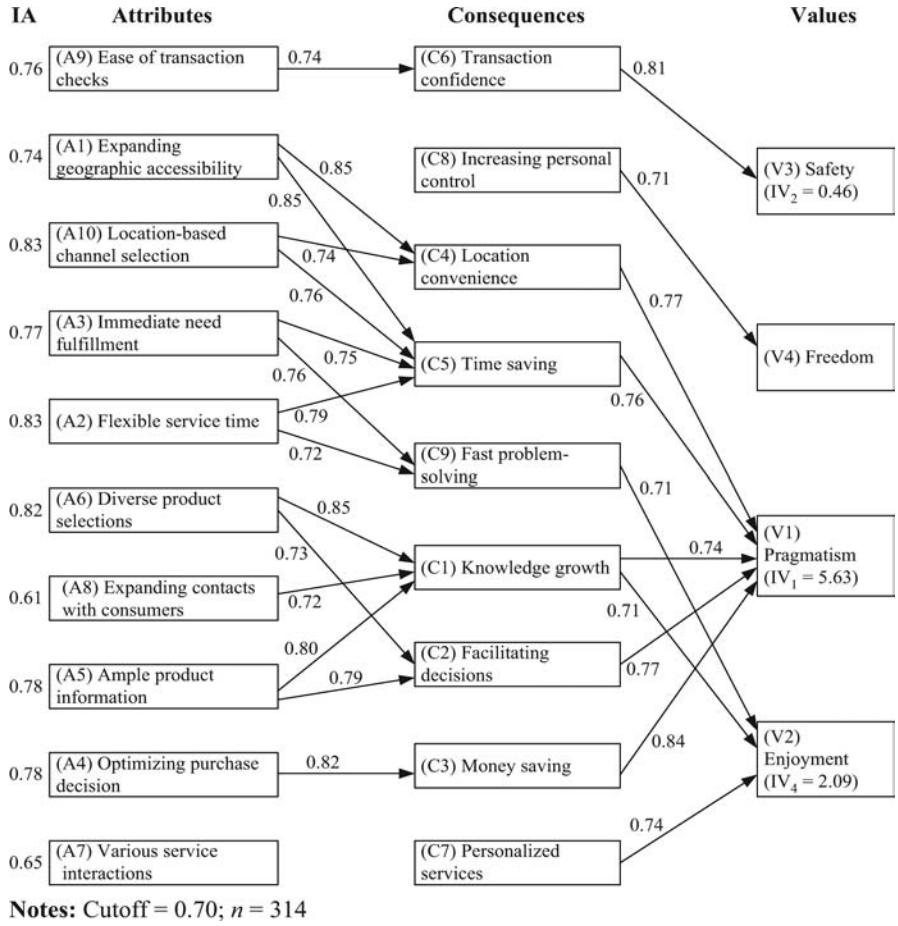

Figure 2.
The hierarchical value map of multi-channel shopping

questions, this study formed two groups of participants by those whose scores are above or below the median (3.33). The former is the expert group of 141 shoppers; the latter is the novice group of 114 shoppers. Subsequently, this study constructed two HVMs for these two groups to compare their cognitive structures and examine the impacts of past experience on consumer values (see Figures 3 and 4).

The result reveals that there are more meanings and linkages expected by novices than by experts. As the experience of MCS accumulates, experts are more likely to develop shopping heuristics than novices because their cognitive structure tends to be simpler. This finding reflects that multi-channel novices desire to obtain more experiences from the process of MCS, whereas multi-channel experts are more goal-oriented in a utilitarian manner. To further test the potential effect of past experience on utilitarian and hedonic values of MCS, this study compares the importance weights of value between the two groups. As we expected, the value weight of enjoyment appears to be more influential for novices (IV = 2.67) than for experts

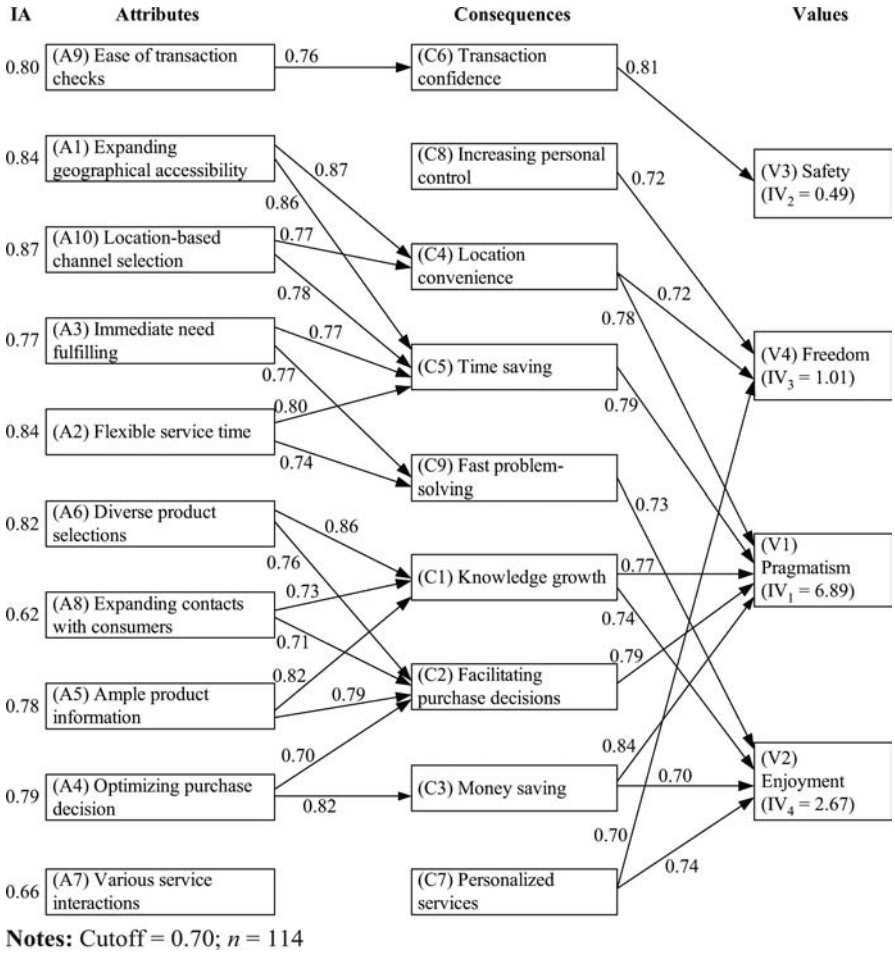

Figure 3.
The hierarchical value map for the MCS novices

(IV = 0.33). The importance value of pragmatism is 6.89 for the novices and 5.21 for the experts; the difference in value is not much.

6. Conclusions and discussion

A consumer's decision to perform MCS is complicated. This study applies means-end theory to explore MCS values and develop several HVMs in the MCS context. The results provide a holistic view to understand MCS patterns and identify eighteen complete means-end chains for four MCS values of pragmatism, enjoyment, safety and freedom. The hierarchical structure of these MCS values is also useful for retailers to design more consumer-focus value propositions that improve customer satisfaction. According to Parasuraman and Grewal (2000), consumer value plays an important role in determining customer satisfaction and loyalty. Future research is encouraged to directly measure these MCS values and examine their relations to MCS satisfaction and loyalty. Furthermore, our

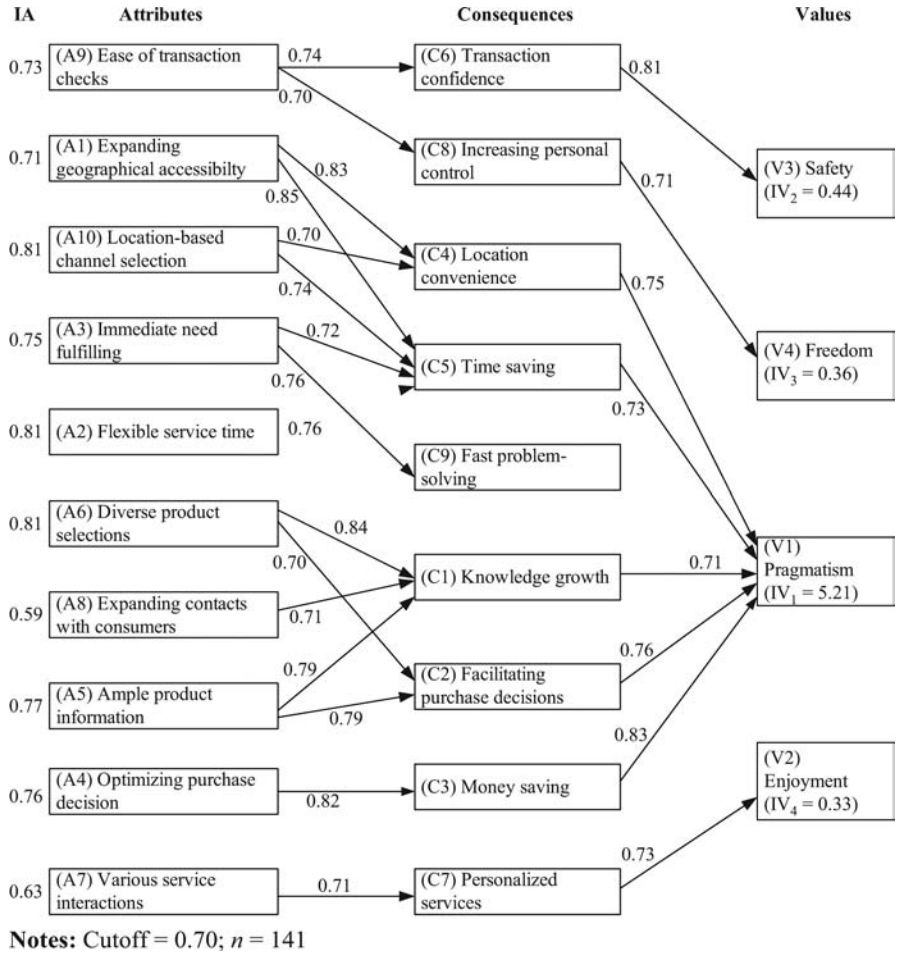

Figure 4.
The hierarchical value map for the MCS experts

results also show that consumers' past MCS experiences have moderating effects on consumer perceptions of value attainment. Such finding helps retailers to manage their MCS customers based on different levels of shopping experience.

First, insights from results show that pragmatism is the most important value that consumers pursue in the MCS environment. It indicates that pragmatic consumers are likely to use multi-channel integration to save their money, time, and effort. Most importantly, this study reveals that multi-channel shoppers expect to use a multi-channel mix to obtain a wide range of product assortments and efficiently enhance their product-relevant knowledge. The findings provide support for research-shopping orientation in the context of MCS (Verhoef *et al.*, 2007). Future research can further examine the linkage between research-shopping orientation and pragmatism value.

Next, the value of enjoyment reveals that multi-channel shoppers expect to achieve a joyful feeling arising from something beneficial to them. In addition to the

pragmatism value discussed previously, this study also uncovers that multi-channel shoppers gain shopping enjoyment through the growth of their knowledge, which is derived from the diverse product assortment that retailers provided. Thus, consumers view MCS as an information source to efficiently enrich their product-relevant knowledge, and they also treat MCS as an experiential process that satisfies their inner pleasure during the knowledge-acquiring process. Since past research has focused more on the utilitarian value of MCS, we recommend that future research can further examine the impact of hedonic value in the MCS context.

Third, the value of safety indicates that multi-channel shoppers expect to reduce information asymmetry and increase their confidence through multi-channel integration. The results indicate that multi-channel shoppers could take advantage of multiple channels to check the status of order processing or product delivery to minimize transaction ambiguity and enhance their sense of safety in MCS (Schoenbachler and Gordon, 2002). Since information asymmetry is likely to generate uncertainties and risks toward order fulfilling and product delivery in a consumer's purchasing process (Pavlou *et al.*, 2007), MCS consumers tends to take some actions for shopping risks. The issue of risk-prevention orientation may be examined in future MCS studies.

Fourth, the MCS environment empowers a consumer to realize his/her ubiquity of shopping (Loewe and Bonchek, 1999). The value of freedom reflects that multi-channel shoppers expect to be free to make their purchases without any restraint and under personal control. It represents a key factor influencing consumers' adoption of self-service technologies (Meuter *et al.*, 2000; Wolfinbarger and Gilly, 2001). Although the association weight between the ease of transaction checks and the increase of personal control in Figure 2 is not significant, the result shows that the weight (0.69) is near the cutoff point of 0.70. Our results also reveal that MCS experts perceive more controls toward MCS from the ease of transaction checks than MCS novices. Multi-channel consumers with more shopping experiences are more likely to monitor their shopping orders and item delivery through multiple channels to make sure that they have controls over their purchases.

Finally, this study confirms the impacts of past experience on consumer values in the MCS context. The results show that both expert and novice shoppers emphasize the utilitarian value of MCS, but their perceptual orientations of the utilitarian value are not identical. The experts take MCS as an efficient way to enhance their product knowledge, but the novices focus on the convenient aspect of MCS (e.g. time saving and location convenience). In addition, shopping novices pay more attention to the hedonic value of MCS than the experts do. This result reveals that shopping novices tend to exhibit exploratory MCS behavior and enjoy their shopping trips (Baumgartner and Steenkamp, 1996). The enjoyment of MCS perceived by the novices is derived from the enrichment of knowledge, but experts derive it from personalized services. Our findings are consistent with those in Hammond *et al.*'s (1998) work. Future MCS research is recommended to examine the moderating effects of shopping experience by using other multivariate approaches, such as structural equation modeling.

7. Managerial implications

The findings of this study provide several managerial implications for multi-channel retailers. First, retailers need to understand more about the functions of MCS that they

offer. The study identifies ten MCS attributes, which reflect the characteristics of MCS perceived by MCS consumers, and utilizes these attributes to formulate effective multi-channel strategies for retailers. In particular, flexible service time and location-based channel selection are the two attributes receiving the highest importance weights in Figure 2. Retailers may allow customers to place orders online and pick up their purchases at the nearest physical stores. Purchase return and exchange can be implemented in the same fashion. Such practices facilitate customers to achieve their expectations of the location-based convenience. Retailers should organize effectively the complementary attributes or functions across multiple channels to allocate their resources to the appropriate channel and create a superior shopping experience for their customers.

Second, the most dominant ACV chain found in this study shows that the consequence of knowledge growth, which follows the perceived attribute of diverse product selections, leads to the values of pragmatism. Thus, we suggest that retailers should continue to offer diverse product selections to encourage customers to research on the internet, and then effectively guide their customers to the most appropriate channel for pragmatic shopping purpose.

Third, our results indicate that past experience affects consumer perceptions of utilitarian and hedonic values in the MCS setting. Because shopping novices and experts have different thoughts about MCS, this implies that retailers need to conduct different marketing strategies on these two groups. A loyalty program is a helpful way to identify the shopping patterns in the MCS context. Through customer information collected from loyalty programs, retailers could enhance shopping efficiency for their MCS customers, and provide more playful elements (e.g. 3D presentation of products) to attract and retain MCS novices. This implication helps retailers to create long-lasting relationships with their customers.

Finally, the means-end theory brings retailers a useful tool for developing effective promotion strategies to encourage customers to do MCS (Reynolds and Gutman, 1984; Vriens and ter Hofstede, 2000). This study suggests that multi-channel retailers may communicate with their target customers by means of exemplifying consumer expectations and values in their promotion strategies. For example in pragmatism, multi-channel retailers should place an online advertisement such as "Please print this coupon and use it in your local stores to obtain an extra discount on your next purchase." Such an advertisement provides an opportunity for money saving to price-sensitive customers, and might help retailers attract more pragmatic shoppers to their stores.

8. Limitations and future research

There are some limitations of the present study. First, different cultures may influence the choice of shopping channels that consumers utilize to purchase. For example, one of the dimensions of national culture is uncertainty avoidance; consumers with high degree of uncertainty avoidance may emphasize transaction safety and perform more cross-channel checking on their purchases. The study did not examine the HVMs for cross-cultural comparison. Future research can further study the HVM across different national cultures.

Second, this study limits the MCS setting to the shopping activities via online and physical channel integration. This limitation may reduce the generalizability of the

findings even though online shoppers tend to be active multi-channel shoppers who switch between online and physical channels (Kumar and Venkatesan, 2005). Future research should explore the HVMs of the other types of cross-channel shoppers, such as catalog/online or mobile/in-store integration.

Finally, the study follows ter Hofstede *et al.*'s (1998) paradigm to assess the means-end relations of consumer values in the MCS context by developing a three-level representation of ACV linkages pertaining to MCS experiences. However, it is unable to assess the intra-level linkage, such as functional and psycho-social consequences as suggested by Peter and Olson (2002). Future research could evaluate the means-end structure of MCS by means of other hard laddering techniques (e.g. Walker and Olson, 1991) to represent more complex consumers' cognitive structures.

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Appendix 1

Elements	Definitions
Attribute level	
(A1) Expanding geographical accessibility	To expand the product availability by mixing channels in different purchase decision stages
(A2) Flexible service time	To conduct purchase decision process whenever a consumer needs in a multi-channel fashion
(A3) Immediate need fulfillment	To fulfill need or demand immediately through appropriate channels
(A4) Optimizing purchase decision	To find the best choice under different pricing levels and charge standards in the multi-channel context
(A5) Ample product information	To obtain sufficient product information through multiple channels
(A6) Diverse product selections	To browse a great selection of products through different channels
(A7) Various service interactions	To communicate with firms or salespersons in a variety of ways
(A8) Expanding contacts with consumers	To interact with other consumers through various channels
(A9) Ease of transaction checks	To make sure of transaction success through multiple channels
(A10) Location-based channel selection	To utilize the most convenient channel at one's location
Consequence level	
(C1) Knowledge growth	To enhance one's product knowledge
(C2) Facilitating decisions	To facilitate one's purchase decisions
(C3) Money saving	To save one's monetary shopping cost
(C4) Location convenience	To shop at a convenient location
(C5) Time saving	To reduce one's shopping time cost
(C6) Transaction confidence	To enhance one's confidence toward transactions
(C7) Personalized services	To receive customized services
(C8) Increasing personal control	To increase one's control toward shopping
(C9) Fast problem-solving	To resolve one's problems quickly
Value level	
(V1) Pragmatism	A motivation to maximize shopping outcomes economically and practically
(V2) Enjoyment	A state of feeling arising from something gratifying and beneficial
(V3) Safety	A condition of being secure and free from potential danger or fraud
(V4) Freedom	A sense of not being unduly restrained or hampered

Table AI.
The results from content analysis

Appendix 2

Table AII.
The association weights of AC and CV matrices

	C1	C2	C3	C4	C5	C6	C7	C8	C9	V1	V2	V3	V4
A1	0.51	0.49	0.58	0.85	0.85	0.46	0.51	0.57	0.61				
A2	0.50	0.53	0.45	0.61	0.79	0.46	0.55	0.64	0.72				
A3	0.47	0.60	0.50	0.62	0.75	0.48	0.57	0.64	0.76				
A4	0.52	0.69	0.82	0.52	0.56	0.47	0.51	0.59	0.53				
A5	0.80	0.79	0.61	0.54	0.59	0.56	0.57	0.65	0.63				
A6	0.85	0.73	0.53	0.55	0.58	0.47	0.58	0.62	0.56				
A7	0.60	0.64	0.45	0.50	0.53	0.57	0.69	0.60	0.67				
A8	0.72	0.68	0.53	0.50	0.51	0.52	0.54	0.59	0.60				
A9	0.46	0.54	0.45	0.50	0.58	0.74	0.54	0.69	0.59				
A10	0.49	0.57	0.55	0.74	0.76	0.53	0.58	0.61	0.65				
C1										0.74	0.71	0.63	0.60
C2										0.77	0.66	0.65	0.60
C3										0.84	0.68	0.54	0.53
C4										0.77	0.65	0.51	0.66
C5										0.76	0.63	0.50	0.64
C6										0.57	0.65	0.81	0.56
C7										0.60	0.74	0.54	0.68
C8										0.65	0.66	0.62	0.71
C9										0.66	0.71	0.58	0.58

Note: $n = 314$

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