Association for Information Systems
AIS Electronic Library (AISeL)

PACIS 2016 Proceedings

Pacific Asia Conference on Information Systems
(PACIS)

Summer 6-27-2016

EXPLORING CONSUMER VALUE OF CROSS-BORDER ONLINE SHOPPING: AN APPLICATION OF MEANS-END CHAIN THEORY AND MASLOW'S HIERARCHY OF NEEDS

Eldon Y. Li
National Chengchi University, eli@calpoly.edu

Liang Shuo. Chang
National Chengchi University, 103356029@nccu.edu.tw

Laurence F.K. Chang
National Chengchi University, 98356507@nccu.edu.tw

Follow this and additional works at: http://aisel.aisnet.org/pacis2016

EXPLORING CONSUMER VALUE OF CROSS-BORDER ONLINE SHOPPING: AN APPLICATION OF MEANS-END CHAIN THEORY AND MASLOW'S HIERARCHY OF NEEDS

Eldon Y. Li, Department of Information Management, National Chengchi University, Taipei, Taiwan, R.O.C., eli@nccu.edu.tw

Liang Shuo. Chang, Department of Information Management, National Chengchi University, Taipei, Taiwan, R.O.C., 103356029@nccu.edu.tw

Laurence F.K. Chang, Department of Information Management, National Chengchi University, Taipei, Taiwan, R.O.C., 98356507@nccu.edu.tw

Abstract

While online shopping websites are facing the difficulties of price and low-quality competition, cross-border online shopping is on a vigorous development trend, showing that cross-border online shopping is an important trend of online shopping field. Due to the complexity of cross-border online shopping is much higher than the traditional domestic online shopping, so understanding the value of cross-border online shopping consumers is the most important success factors. Companies want to develop new markets abroad, must understand the local consumer's behaviour and their decision-making process in order to make good business strategies.

This study uses means-end chain to construct Taiwanese cross-border online shopping consumers' hierarchical value map, and also uses Maslow's hierarchy of needs to sort these value elements' importance.

After obtained the reason why consumers use cross-border online shopping service and what values they got in this service. Researcher can predict and analyse the evolution and development of cross-border online shopping, provide reference for future online shopping academic studies and online shopping industry's decision-making.

Keywords: Cross-Border Online Shopping Behaviour, Consumer Personal Value, Means-End Chain, Consumer Hierarchical Value Map, Maslow's Hierarchy Of Needs

1   INTRODUCTION

Online shopping is not only breaking the previous geographical barriers, also continued spawned new business models. Because internet without borders restrictions and time constraints, the number of cross- border shopping consumer increasing every year. According to the report of Eurobarometer (European Commission, 2006, 2008, 2010, 2011, 2012, 2013), the number of EU cross-border online shopping grew twice from 2006 to 2013. Institute for Information Industry (III) (2013)" Taiwan online shopping behaviour analysis", also showed that among online shoppers in Taiwan, 36.3% has experience of cross- border online shopping, growth of 5.3% compared with 2012. Showing upward growth trend. Taobao double eleven activities, also causes a trend of cross-borders online shopping in Taiwan, according to the III's FIND Survey (III, 2015a), about 30% of Taiwanese online shoppers shopped at foreign platform in November 11. There will be more and more consumers shop at .foreign websites.

"Cross-border online shopping" has gradually become one of the familiar way to shop. According to III's FIND data (III, 2015b) shows that in 2015 the top three platform that Taiwanese shoppers shop most often are Taobao (83%), Tmall (25%), and AMAZON (15%) (Zheng 2015). According to III's MIC (III, 2009) Analysis of Taiwan online shopping trend, 18.2% of Taiwanese e-commerce stores have started the cross-border business, 28.1% plan to enter this field in the future and 60.4% of them plan to expand the Chinese mainland market. Estimated that by 2018 Cross-border shopping population in China will reach 3,560 million (III, 2015b), showing that cross-border online shopping is an important trend of online shopping field.

Due to the complexity of cross-border online shopping is much higher than the traditional domestic online shopping, so understanding the value of cross-border online shopping consumers is the most important success factors. Companies want to develop new markets abroad, must understand the local consumer's behaviour and their decision-making process in order to make good business strategies. Means-End Chain is a method to obtain consumer value, according to Means-End Theory, consumers choose a product or service, is based on personal values and the final status that after using the product or service (Gutman 1982). Therefore, this study uses Means-End Chain's "attribute-consequence-value" analysis. Construct Taiwanese consumers' hierarchical value map of cross-border online shopping, to explore and analyse the deeper meaning. Using Maslow's hierarchy of needs to sort the value elements by importance, provide online shopping industry reference when the service developed.

The main motivation for this study is to assist service providers understand the value of cross-border online shopping services. Currently, online shopping website is facing price competition and low-cost products competitive market difficulties, but cross-border online shopping has a robust development trend. Knowing the "hidden potential customer needs" will become a significant challenge for online shopping service provider. By capturing the presence of deep inner thoughts and feelings of consumers

to understand the consumer value and perception model, as a reference of product development and marketing. Only transform the product-oriented service into a customer-oriented service, the online shopping industry has chance to survive.

2 LITERATURE REVIEW

2.1 Challenge of Cross-Border Online Shopping and Related Research

Cross-border online shopping is an enterprise or individuals from different countries and regions through online shopping platform to deal, pay and deliver goods through cross-border logistics. The most famous international cross-border online shopping platform includes eBay, Amazon, and Taobao. Popularity of cross-border online shopping also contributed to the mutual cooperation among enterprises, Cross- border Ecommerce Community (CBEC) was launched in 2013, designed to be the knowledge center of cross-border online shopping, in a non-competitive manner and in cooperation with other companies to share knowledge.

Online shopping output value increased year by year, the online shopping population is also growing rapidly, it causing many scholars' attention. Analysed past research of online shopping motivation, this study found that main focus can be divided into the demographic variable and online shopping experience. In the studies of demographic variable, the most often studied variables were age (Teo 2001; Joines et al 2003; Sorce et al 2005; Dholakia & Uusitalo 2002) and gender (Teo 2001; Dholakia & Uusitalo 2002), other demographic variables such as education, income (Mishra 2015), etc. there are also studies focused on. In the study of online shopping experience, the most common theme is past consumer online shopping experiences (Foucault & Scheufele 2002; Brown et al, 2003; Huang & Oppewal 2006) and peer influence (Foucault & Scheufele 2002; Vijayasarathy 2004; Barkhi & Wallace 2007), other studies such as impact of region, product categories or logistic (Gomez-Herrera et al. 2014), there are also have some literatures.

2.2 Consumer Online Shopping Motivations

Consumer online shopping attitude influenced by web features first, and web feature direct impact on the perception of emotional or psychological (Davis 1993). Bakos' (1997) study shows that online shopping can effectively reduce search costs for consumers, making it easier for consumers to find and meet the demand for cheaper products, Childers et al. (2002) Childers et al (2002) suggests motivation can be divided into utilitarian motivations and hedonic motivations, for example, "easy to use" as utilitarian motives, "happy" as the hedonic motivation, Gefen, Karahanna and Straub (2003) explored the trust of online shopping, found that websites favoured by consumers not just because the "helpful" and "easy" these two factors in technology acceptance model (TAM), to build a trust mechanism is equally important. Later, many scholars categorize consumers by their motivation type, for example, Keng, Yingchan and Ghosh (2003) collected 3,700 web users' demographic variables and actual

consumer behaviour, then used the cluster analysis. They divided consumers into six categories, first is "on-off shopper" using the web to collect product information, then do to the physical store for purchase, second is "comparison shopper", this kind of consumer must shop around before buying, third is "traditional shopper", they do not use internet to collect information or shop, fourth is "dual shopper", this kind of consumer shopping on both online and offline, fifth is "e-laggard", usually women and elderly, they seem to lack interest in the Internet, the last is "Information surfer", they are highly interested in online advertising and product. Rohm and Swaminathan (2004) analysed a plurality of empirical researches and divided consumers into six categories. Tend to shop online. Bagdoniene and Zemblyte (2015) summarized the factors that influence consumers' motivation as logistics, consumer background and product type. The motivation that previous studies summarized often end in means-end chain's consequence level, the higher level such as value level is still unexplored.

2.3   Means-End Theory

Means-end theory (Gutman 1982) believes that the personal behaviour is driven by personal values. A person will give meaning to goods or services, and these meaning have association with personal value.(Olson and Gutman 1983). Means-end theory is to explore these association relations. The"means"refers to a personal view to the attributes of goods or services, the "end" refers to consequences that provided by attributes or values that provided by consequences. Means-end theory consists of three main levels:

Attribute: attribute is tangible or intangible features of goods or services and consumers can easily identify. For example, price, color, weight, etc. (Peter et al. 1999)

Consequence: consequence is impossible or difficult to be observed directly by the consumers, it is a psychological or physical state that after consumers purchase the goods or services. One consequence may be caused by multiple attributes(Vriens & ter Hofstede 2000; Peter et al. 1999).

Value: value is the most abstract level, it is a long-standing faith and cognitive, and the source of motivation for personal behaviour. For example, self-esteem, a sense of security, happiness, etc. (Vriens & ter Hofstede 2000; Peter et al 1999.).

Phllips and Reynolds (2009) think that means-end theory is a top-down process to give importance, the importance of attribute derived from consequence that associated with it, and the importance of consequence derived from value that associated with it. Means-end chain can explain the decision-making process of consumers and show the cognitive architecture (Grunert & Grunert 1995). Therefore, this method is often used for advertising, marketing, market positioning, new product development and consumer market segments, etc. Recently, many scholars applied means-end chain to research consumer behavior(Bagozzi & Dabholkar 1994; Pieters et al. 1995)and online shopping. Subramony (2002) applied means-end chain to study the web interface. He collected 50 Internet users' attribute - consequence – value relationship. Identified the important attributes and values of web interface and

user experience. Laukkanen, Tommi and Jari (2005) applied means-end chain to study the consumer value of mobile banking service, found safety and convenience are most important value to consumer. Laukkanen (2006) applied means-end chain to study the value of online financial services to consumers.

2.4   Maslow's Hierarchy of Need and Consumer Behaviour

Maslow's hierarchy of needs has been widely used in the social sciences. Maslow's hierarchy of needs has five levels, from low to high are physiological, safety, social, esteem and self-actualization. Lower level needs are easy to be satisfied, and only lower level needs be satisfied, human can pursuit higher level needs which are difficult to be satisfied.   Some scholars applied Maslow's Theory in consumer behaviour studies. Dennis, Newman and Marshland (2005) researched the relationship between consumer decision in shopping mall and hierarchy of needs. Valacich, Parboteeah and Wells (2007) used Maslow's hierarchy of needs to study the importance of web design elements and user experience, then constructed framework of online consumer's hierarchy of needs. Provide a guidance for web interface designer. In the field of cross-border online shopping, Guo, Vasquez-Parraga, and Wang (2006) used Maslow's hierarchy of needs to explain cross-border transactions of Mexico and the United States, found that the main motivation of Mexican consumers go to shop in United States are (1) product quality,(2) quality of service, (3) fashion, (4) fun. The higher level of needs cause Mexican people across borders to the US for shopping.

3   METHODOLOGY

Choosing "means-end chain" as data collection method, because it is flexible, easy to explore in depth and suitable for exploratory issues. Take one in-depth interviews, and make sure the respondents feel comfortable throughout the interview process. Keep encourage the respondents to share any experiences, thoughts or situations related to cross-border online shopping in order to explore how Taiwanese consumers use these services' attributes to meet the personal values.

3.1   Using Reason of Means-End Chain

Personal values are difficult to use top-down method to capture. Laddering (Reynolds & Gutman 1984; 1988) use bottom-up capture method, starting from the lowest level (attributes) to the highest level (value). Laddering data collection methods can be divided into two kinds, soft and hard. Soft laddering (for example, Gutman 1982; Gutman & Miaoulis 2003; Overby et al 2004) refers to the depth interviews to collect information, studies using laddering method is also use more this method (Reynolds & Phillips 2009). During the interview respondents' answers must without any guidance and restrictions, and the interviewer must have the concept of "the respondents are expert" (Reynolds & Gutman 1988). Hard laddering (Walker & Olson 1991; ter Hofstede et al 1998.) is based on written tests or questionnaires to collect information. Hard laddering is suitable for the public familiar issues (Grunert & Grunert 1995), compared to soft laddering, hard laddering is difficult to obtain personal

subjective idea and reach the higher level such as personal values (Phllips & Reynolds 2009).

Consider the applicability of the above-mentioned comparison. This study uses soft laddering as data collection method. Refer to the interview method that Reynolds and Gutman (1988) proposed, keep asking "Why (attribute, consequence or value) is important to you?", "if without this (attribute, consequence or value), what will the situation be?" Asking questions to stimulate respondents to recall the situations and feelings when they were using cross-border online shopping services, also make it easier for them to provide deeper levels' elements such as consequences and values.

Each interview take about 30 minutes to 45 minutes. After obtain respondents' agreement, all interview contents were recorded and organized into text format. Questions of interview outline include "Which cross-border online shopping platform do you use most often?" "Is there any differences between cross-border online shopping and domestic online shopping?", "What benefits that cross-border online shopping brings to you?" and "Are these benefits match your personal values and what personal values?", etc., based on the respondent's answer to make some questions' adjustment in order to collect more diverse information.

3.2   Interviewee

This study is qualitative research, samples' suitability is more important than the number of samples (Denzin & Lincoln 2005). Observe the past researches of soft laddering method, the samples size from the single-digit to tens digit range (Manyiwa & Crawford 2002; Gutman 1984; Overby et al 2004; Zeithaml 1988). Reynolds and Gutman (1988) considered appropriate number of samples is between 30 and 50. Refer to related literatures, select number of samples on to 30 or more, and focus on Taiwanese who has cross-border online shopping experience.

3.3   Data Analysis

Refer to Reynolds and Gutman's (1988) data analysis method, the first step of content analysis is coding. Merge and give the similar elements an appropriate name, for example, merge "foreign goods are better" and "you can buy more durable things" into "quality of goods". The method of determining levels of each element can refer to the situation of source (from) and extended (to). The element that only has source must be attribute level; the one that has both source and extended must be consequence level and the one that only has extended must be value level. Categories results of elements are presented in table form. In order to minimize subjective factors. Coding by three coders (Grunert & Grunert 1995) that familiar with means-end chain theory, laddering and cross-border online shopping. Without interference in each other and then discussion for the divergent parts. After completion of coding all the elements, give each element a number and create a table for subsequent analysis steps. The second step is creating implication matrix, depiction the number of direct link and indirect link between elements. According to definition of link between elements (Reynolds & Gutman 1988), direct link is the link that between two adjacent elements, indirect link is that there are one or more

elements between these two elements. The higher the number represents stronger relation between these two elements. Implication matrix displays the number of times each element leads to each element. Example is shown in table 1.

	(C5)	(C6)	(C7)	(C8)	(C9)	(V10)	(V11)	(V12)
(A1)	1:00		5:11		0:04			0:04
(A2)	4:00		0:04	0:02	0:03		0:08	
(A3)	6:00		3:04	1:02	1:07	1:08	0:05	0:05
(A4)		8:00	0:01		2:00		0:01	
(C5)		3:00	5:01	4:03	9:01	3:02	0:06	0:05
(C6)				7:00			1:03	0:04
(C7)						8:00	0:06	1:04
(C8)					9:00		4:02	5:04
(C9)							10:00	8:00

Table 1   Example of implication matrix

The third step is constructing the hierarchical value map (HVM), in order to avoid a too large and complex HVM, it must be set the cut-off level to remove the relatively weak relations. Reynolds and Gutman (1988) recommend that if the number of samples is 50 to 60, the appropriate cut-off level is 3 to 5, Grunert, and Grunert (1995) believes that there is no absolute standard-setting of cut-off level. This study set the cut-off level 3. Means researcher only put those relations that direct link number more than three times into HVM. And This study also refer to Reynolds and Gutman's (1988) five kinds of link relations to make the relationship between the elements clearer. The example of HVM is shown in figure 1.
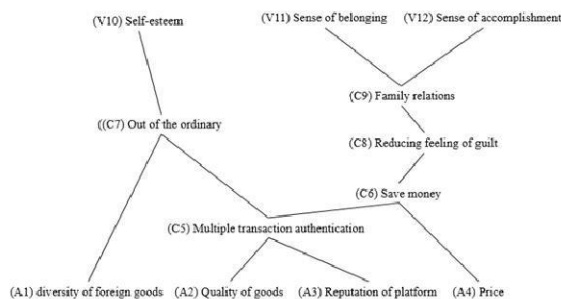

Figure 1   Schematic diagram of HVM

After finishing HVM, it can show a complete user cognitive architecture of cross-border online. Put the value level's elements into Maslow's hierarchy of needs, then researcher can sort these elements to find the value hierarchy. Researcher can also find the important attributes and consequences by their link relations with the values. For example, put (10) self-esteem, (11) sense of belonging and (12) sense of accomplishment into needs hierarchy, and it can be seen that (12) sense of accomplishment is in the

highest level, next is (10) self-esteem and (11) sense of belonging is relatively low. According to Maslow's hierarchy definition (Maslow 1954), low-level needs must first be satisfied, before they can pursue the higher level needs. Showing that (11) sense of belonging must first be satisfied. And in order to satisfy (11) sense of belonging, the related attribute (4) price has the highest influence, next are (2) quality of goods and (3) reputation of platform (1) diversity of foreign goods has no influence to (11) sense of belonging. This shows that cross-border online shopping service provider must pursue competitive prices, good quality and the credibility of its own platform first not the diversity of foreign goods.

4   EXPECTED CONTRIBUTION

This study uses Means-End Chain's "attribute-consequence-value" analysis to understand how Taiwanese consumers use cross-border online shopping service to match their personal values. First, create the HVM to understand the consumers' cognitive architecture of cross-border online shopping service. Next, apply these values in HVM to Maslow's hierarchy of needs to find the level positions of each value, then refer to the association relations of elements in HVM, find the important attributes in cross-border online shopping service.

Contribution to academic research: most of previous researches focus on domestic online shopping service. Fewer researches for cross-border online shopping service. In recent years, cross-border online shopping is on a vigorous development trend. This study take the lead from perspective of consumers' personal value, Combine with relevant theory basis, it will be more substantive and in-depth understanding of obstacles and opportunities that brought by the booming cross-border online shopping. The research results can be the future researches' reference.

Contribution to Practical application: online shopping websites are facing the difficulties of price and low-quality competition, cross-online shopping can be a good development direction. This study hopes to capture the deep inner thoughts and feelings of consumers, in order to deduce the behaviour patterns of consumers, it can be reference of product development and marketing. Allowing manufacturers and brands can be output to the international market.

Reference

Bagdoniene, L., & Zemblyte, J. (2015). Online shopping motivation factors and their effect on Lithuanian Consumers. *Economics and Management*, (14), pp. 367-374.

Bagozzi, R. P., & Dabholkar, P. A. (1994). Consumer recycling goals and their effect on decisions to recycle: A means- end chain analysis. *Psychology & Marketing*, 11(4), pp. 313-340.

Bakos, J. Y. (1997). Reducing buyer search costs: Implications for electronic marketplaces. *Management science*, 43(12), pp. 1676-1692.

Barkhi, R., & Wallace, L. (2007). The impact of personality type on purchasing decisions in virtual stores. *Information Technology and Management*, 8 (4), pp. 313-330.

Brown, M., Pope, N., & Voges, K. (2003). Buying or browsing? An exploration of shopping orientations and online purchase intention. *European Journal of Marketing*, 37(11/12), pp. 1666-1684.

Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2002). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing*, 77(4), pp. 511-535..

Dennis, C., Newman, A., Marshland, D., (2005). *Objects of Desire — Consumer Behaviour In Shopping Centre Choices*. Palgrave Macmillan, London.

Denzin, N. K., & Lincoln, Y. S. (2005). *Qualitative Research*. Denzin, NK y Lincoln YS.

European Commission, (2006). Special Eurobarometer 252 "Consumer protection in the Internal Market". [pdf] Available at: [Accessed 28 December 2015].

European Commission, (2008). Special Eurobarometer 298 "Consumer protection in the internal market". [pdf] Available at: [Accessed 28 December 2015].

European Commission, (2010). Flash Eurobarometer FL 282. "Attitudes towards crossborder sales and consumer protection". [pdf] Available at: [Accessed 28 December 2015].

European Commission, (2011). Flash Eurobarometer FL 299 "Consumer attitudes towards cross-border trade and consumer protection". [pdf] Available at: [Accessed 28 December 2015].

European Commission, (2012). Flash Eurobarometer FL 332 'Consumers' attitudes towards cross-border trade and consumer protection". [pdf] Available at: [Accessed 28 December 2015].

European Commission, (2013). Flash Eurobarometer FL 358."Consumer attitudes towards cross-border trade and consumer protection". [pdf] Brussels: European Commission. Available at: [Accessed 28 December 2015].

Foucault, B. E., & Scheufele, D. A. (2002). Web vs campus store? Why students buy textbooks online. *Journal of Consumer Marketing*, 19(5), pp. 409-423.

Gefen, D., Karahanna, E. & Straub. D.W. (2003)", Trust and TAM in online shopping: an integrated model." *MIS Quarterly*, 27(1), pp. 51-90.

Gomez-Herrera, E., Martens, B., & Turlea, G. (2014). The Drivers and Impediments for Cross-border e-Commerce in the EU. *Information Economics and Policy*, 28, pp. 83-96.

Grunert, K. G., & Grunert, S. C. (1995). Measuring subjective meaning structures by the laddering method: Theoretical considerations and methodological problems. *International journal of research in marketing*, 12(3), pp. 209-225

Guo, C., Vasquez-Parraga, A. Z., & Wang, Y. (2006). An exploratory study of motives for Mexican nationals to shop in the US: More than meets the eye. *Journal of Retailing and Consumer Services*, 13(5), pp. 351-362.

Gutman, J. (1982). A means-end chain model based on consumer categorization processes. *The Journal of Marketing*, pp. 60-72.

Gutman, J. (1984). Analyzing consumer orientations toward beverages through means–end chain analysis. *Psychology & Marketing*, 1(3- 4), pp. 23-43.

Gutman, J., & Miaoulis, G. (2003). Communicating a quality position in service delivery: an application in higher education. *Managing Service Quality: An International Journal*, 13(2), pp. 105-111.

Huang, T, & Oppewal, H. (2006). Why consumers hesitate to shop online? *International Journal of Retail and Distribution Management,* 34 (4/5), pp. 334-353.

Institute for Information Industry (2015). *The seventh "cross-strait industrial cooperation and shopping online exchange meeting" focused on "cross-strait cooperation opportunities", "web innovative applications" and "Mobile Commerce Trends"*, available at http://www.iii.org.tw/m/News-more.aspx?id=1627 (accessed 28 December 2015).

Institute for Information Industry (2009). *2009 Taiwan online shopping trends – segment, interaction and transaction*, available at http://mic.iii.org.tw/intelligence/pressroom/pop_pressfull.asp?sno=175&type1=2 (accessed 28 December 2015).

Institute for Information Industry (2015). *Taiwan people online shopping experience (2015)*, available at http://www.find.org.tw/market_info.aspx?n_ID=8621 (accessed 28 December 2015).

Joines, J. L., Scherer, C. W., & Scheufele, D. A. (2003). Exploring motivations for consumer Web use and their implications for e-commerce. *Journal of Consumer Marketing*, 20(2), pp. 90-108.

Keng Kau, A., Tang, Y. E., & Ghose, S. (2003). Typology of online shoppers. *Journal of Consumer Marketing*, 20(2), pp. 139-156.

Laukkanen, T. (2006). Customer-perceived value of e-financial services: a means-end approach. *International Journal of Electronic Finance*, 1(1), pp. 5-17.

Laukkanen, T., & Jari, L. (2005), "Consumer value creation in mobile banking services." *International Journal of Mobile Communications*, 3(4), pp. 325-338.

Manyiwa, S., & Crawford, I. (2002). Determining linkages between consumer choices in a social context and the consumer's values: a means–end approach. *Journal of Consumer Behaviour*, 2(1), pp. 54-70.

Maslow, A. *Motivation and Personality*. Harper & Row, N.Y., 1954.

Mishra, P. (2015). Motivator of Online Shopping: The Income Factor. *Asian Journal of Research in Banking and Finance*, 5(11), pp. 34-46.

Olson, J.C., & Reynolds, T.J. (1983). Understanding consumers' cognitive structures: Implications for advertising strategy. *Advertising and Consumer Psychology*, 1, pp. 77-90.

Overby, J.W., Gardial, S.F., & Woodruff, R.B. (2004). French versus American consumers' attachment of value to a product in a common consumption context: a cross-national comparison. *Journal of the Academy of Marketing Science*, 32(4), pp. 437-460.

Peter, J.P., Olson, J. C., & Grunert, K. G. (1999). *Consumer Behavior and Marketing Strategy*, pp. 122-123. London: McGraw-Hill.

Phillips, J.M., & Reynolds, T.J. (2009). A hard look at hard laddering: A comparison of studies examining the hierarchical structure of means-end theory. *Qualitative Market Research: An International Journal*, 12(1), 83-99.

Pieters, R., Baumgartner, H., & Allen, D. (1995). A means-end chain approach to consumer goal structures. *International Journal of Research in Marketing*, 12(3), 227-244.

Reynolds, T.J., & Gutman, J. (1984). Laddering: Extending the repertory grid methodology to construct attribute-consequence-value hierarchies. *Personal Values and Consumer Psychology*, 2, pp. 155-167.

Reynolds, T.J., & Gutman, J. (1988). Laddering theory, method, analysis, and interpretation. *Journal of Advertising Research*, 28(1), pp. 11-31.

Reynolds, T.J., & Phillips, J.M. (2009). A Review and Comparative Analysis of Laddering Research Methods. *Review of Marketing Research*, 5, pp. 130-174.

Rohm, A.J., & Swaminathan, V. (2004). A typology of online shoppers based on shopping motivations. *Journal of Business Research*, 57(7), pp. 748-757.

Roy Dholakia, R., & Uusitalo, O. (2002). Switching to electronic stores: consumer characteristics and the perception of shopping benefits. *International Journal of Retail & Distribution Management*, 30(10), pp. 459-469.

Sorce, P., Victor, P. & Stanley, W., (2005). "Attitude and age differences in online buying." *International Journal of Retail & Distribution Management*, 33(2), pp. 122-132.

Subramony, D.P. (2002). Why Users Choose Particular Web Sites Over Others: Introducing a" Means-End" Approach to Human-Computer Interaction, *J. Electron. Commerce Res.*, 3(3), pp. 144-161.

Teo, T.S. (2001). Demographic and motivation variables associated with Internet usage activities. *Internet Research*, 11(2), 125-137.

Ter Hofstede, F., Audenaert, A., Steenkamp, J.B.E., & Wedel, M. (1998). An investigation into the association pattern technique as a quantitative approach to measuring means-end chains. *International Journal of Research in Marketing*, 15(1), pp. 37-50.

Davis, F.D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*, 38(3), pp. 475-487.

Valacich, J.S., Parboteeah, D.V., & Wells, J.D. (2007). The online consumer's hierarchy of needs. *Communications of the ACM*, 50(9), pp. 84-90.

Vijayasarathy, L.R. (2004). Predicting consumer intentions to use on-line shopping: the case of an augmented technology acceptance model. *Information and Management*, 41 (6), pp. 747-762.

Vriens, M., & Ter Hofstede, F. (2000). Linking attributes, benefits, and consumer values. *Marketing Research*, 12(3), pp. 4.

Walker, B.A., & Olson, J.C. (1991). Means-end chains: Connecting products with self. *Journal of Business Research*, 22(2), pp. 111-118.

Zheng, R.F. & Wong, Y.M. (2015). *Taiwanese consumers' online shopping behaviour in double 11*, available at http://www.find.org.tw/market_info.aspx?n_ID=8631 (accessed 28 December 2015).

Zeithaml, V.A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *The Journal of Marketing*, pp. 2-22.