

HOW HEDONIC AND UTILITARIAN MOTIVATIONS AFFECT CONSUMERS' INFORMATION SEARCHES: NEW CAR SALES IN CHINA'S SUB-TIER CITIES

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Abstract- The purpose of this investigation examines how hedonic and utilitarian motivations affect car information search behavior. A total of 554 valid questionnaires were collected from Chaoshan, Guangdong, China, to test the relationships using Hierarchical Moderated Regression (HMR). The findings reveal that basic car buyers with high hedonic motivation tend to obtain information from all sources, while all-attribute purchasers visit members of their own communities for pleasure. Hedonic motivations weaken involvement in the use of mass media search but strengthen involvement in using dealer search. In contrast, utilitarian motivations only positively affect mass media search of low-involvement consumers.

Indexterms- China, Information sources, Involvement, Hedonic motivation, Utilitarian motivation.

I. INTRODUCTION

Information search behavior strongly affects consumers' buying processes^[1,2]. Searching for information is perceived as the previous stage of identifying needs^[3]. Normally, to reduce the perceived risks associated with purchase, consumers use multiple sources of information before making infrequent or costly product purchases, such as cars and houses^[1]. For marketers, the search for information determines the allocation of limited resources among various channels for reaching consumers.

Many studies of information searches have utilized the concept of involvement, which has been proven to be positively correlated with the use of information sources^[1,4,5]. Numerous authors have proposed hedonic motivations, such as interest and enjoyment, and utilitarian motivations, such as evaluations of convenience and time savings, as antecedents to information searches^[6-9]. However, few investigations have empirically tested these three variables together to examine consumers' pre-purchase behaviors.

The car is a highly-involving purchase. In China, when household income reaches approximately \$8000 by 2020, car ownership is expected to surge ("As of August 19, 2015, the World Bank listed on its website"); more importantly, sub-tier cities will contribute more than 60% of total new car sales in China because of the increasing purchasing power and a wider customer base in these regions^[10]. To capture the business opportunity, marketing methods need to be tailored to those consumers based on the product or service they value. This study aims to investigate how hedonic and utilitarian motivations affect the use of external information sources in different segments of car market in China's sub-tier cities.

II. LITERATURE REVIEW

Use of Information Sources

Numerous studies have identified two main types of information sources: internal sources and external sources^[1,3,4,8]. Internal sources refer to retrieving information from personal experiences or accumulated knowledge, whereas external sources mean acquiring information from outside sources^[3]. However, if the internal search provide insufficient information, consumers are likely to also use external sources^[4].

Among external information channels, interpersonal (e.g. friends, family), mass media (e.g. radio, television, and newspapers) and retailer (e.g. car dealers) have always been recognized as three main sources^[8,11]. In Chinese society, mutual trust among out-group people is low^[12]; hence, word-of-mouth from sources, such as friends or family, can be influential in their external information searches^[13]. Television, movies, and magazines, image construction tools for marketers, are frequently mentioned information sources^[14] playing important roles in information search for Chinese consumers^[15]. In addition, before purchasing cars, consumers tend to visit adjacent dealers for test drive or bargaining^[16].

Retailer search provides sufficient information for decision-making in the whole automobile purchase process. With the rapid development of information technology, the Internet has been proposed as a heavily-used, external information source over the past decade^[1,15,17]. The popularity of the Internet is attributed to its full information and easy accessibility^[18]. Besides, Internet users willingly share their experience on the Web, which makes it an interactive, information exchange environment^[19].

Enduring Involvement

Enduring involvement reflects a constant level of care or concern with an issue, product, or activity^[20]. It arises from the perception that the product is related to centrally held values^[21], and is the continuous concern with a product that the individual brings to a purchase situation^[22]. Kyle et al.^[23] surveyed 424 campers from Sumter National Forest in upstate South Carolina. Their study concluded that the campers' engagement in camping demonstrates their need to learn about nature, be close to nature, and share experience with close family and friends. A high degree of enduring involvement results in high involvement during the purchase process^[24]. Past studies have found that involvement is positively correlated with the use of information sources^[4,5,8]. A positive correlation between involvement and amount of information sought is expected, with motivational arguments' explaining: the greater use of certain information sources by more involved consumers. Therefore, Hypothesis 1 is proposed.

H1. There is a positive relationship between involvement and use of various information sources.

Hedonic and Utilitarian Motivations

Hedonic and utilitarian motivations have been widely proven to influence consumption behavior^[9, 25-27]. Hedonic motivations are concerned with fun, playfulness and enjoyment^[9], whereas utilitarian motivations refer to goal-oriented and low-cost behavior^[28].

Such intrinsic motivations as interest and enjoyment or practical benefits have been considered to be the antecedents of searches for information^[6-8]. For example, Bagozzi and Dholakia^[29] once suggested, in virtual community, hedonic users prefer to create and use product information through interaction. In contrast, utilitarian participants tend to exchange information. Babin, Darden, and Griffin^[9] showed pleasure-oriented consumers may seek product information purely for the shopping experience versus goal-directed shoppers for product evaluation. Drawing on previous studies, this investigation assumes that car buyers with high hedonic or utilitarian motivations use various sources of information. Therefore, the following hypotheses are proposed.

H2. Hedonic motivations are positively correlated with use of various sources of information.

H3. Utilitarian motivations are positively correlated with use of various sources of information.

The literature on leisure provides some empirical evidence of the relationship between motivation and enduring involvement. Funk, Ridinger, and Moorman^[30] examined the relationship between motivation and enduring involvement in a sample of season ticket holders and attendees of a Women's National Basketball Association game. Their findings revealed

that metrics of motivation to spectate at sports games were antecedents of enduring involvement. Iwasaki and Havitz^[31] observed that motivation was a strong predictor of enduring involvement in a sample of customers at Canadian recreation centers. Similarly, Kyle et al.^[23] also proposed that motivation is an antecedent of enduring involvement. Consumers attach hedonic and utilitarian values to the experience of shopping^[9,32] and product involvement is an important factor in deriving pleasure from searches or reducing purchase risks for retail products^[33,34]. Mathwick and Rigdon^[34] found that highly product-involved consumers experience more enjoyment and escapism when conducting online searches than do less product-involved consumers. In contrast, after surveying 1162 respondents' behavior on the company-hosted Facebook page, Pöyry, Parvinen, and Malmivaara^[25] concluded that low purchase-involved users are less concerned with purchase decisions and derive self-fulfilling of participation from hedonic motivations, while high purchase-involved users seek instrumental value due to their utilitarian motivations. Certain information sources have characteristics that make them more attractive for use by highly involved consumers than other channels. For example, some channels provide additional hedonic value during searches^[9,35], so consumers may particularly enjoy searching those particular channels. McColl-Kennedy and Fetter^[5] studied the effect of consumers' involvement on their external searches using four services. Their results demonstrate that the relationship between involvement and information search is complicated: a more appealing service corresponds to a greater likelihood that a respondent will make a search for external information. Since motivation has been shown to influence search for information and involvement, consumers with different motivations may exhibit distinct levels of involvement in information search. Whether motivation can moderate the relationship between involvement and information searches warrants the investigation. Accordingly, the following hypothesis is formulated.

H4. The relationship between involvement and use of various information sources becomes stronger as hedonic motivation increases.

H5. The relationship between involvement and use of various information sources becomes stronger as utilitarian motivation increases.

Figure 1 sets the hypotheses within the research model.

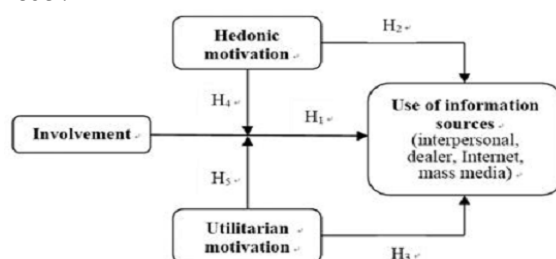


Figure 1: Research framework

III. METHODOLOGY

Sample

The data were collected from the Chaoshan area, located in the eastern region of Guangdong Province, China and consisting of three sub-tier cities of Chaozhou, Shantou, and Jieyang. Trained interviewers were sent to Chaozhou, Shantou, and Jieyang to sample systematically passers-by. A total of 572 questionnaires were successfully collected and finally 554 effective responses were received. Eighteen respondents were eliminated because their responses were inconsistent and/or too many data

were missing. Of the sample, 56.13% were males, and 43.87% were females.

Measures

Following a review of several papers on search behavior^[1,4,36], age, gender, level of education, monthly household income, and number of inhabitants were adopted as the socio-demographic variables herein. To identify car buyers in the Chaoshan area, "the number of private-owned cars" was also included as a control variable. Except for socio-demographic measures, five-point Likert scales were used for the responses.

Table 1
Measurement and descriptives of information sources, involvement, and motivations

Construct	Item	Mean	S.D.	Cronbach's α
Information Sources	Family or relatives (interpersonal)	3.14	1.10	0.79
	Friends (interpersonal)	3.53	0.97	
	People from my direct environment, e.g., school or work (interpersonal)	3.33	0.95	
	Car salesmen, dealers, car rentals, or auto fairs (dealer)	3.71	1.01	
	Advertisements or commercials in magazines, on television, or on radio about cars (mass media)	3.46	0.87	
Involvement	Search engines, such as Baidu, Internet websites or blogs, e.g. Weibo, about cars (Internet)	3.62	0.97	0.83
	I would be interested in reading information about how the automobile is made.	3.51	0.95	
	I would be interested in reading the <i>Consumer Reports</i> article about automobiles.	3.38	0.95	
	I have compared product characteristics among brands of automobiles.	3.63	0.96	
	I think there is a great deal of differences among brands of automobiles.	3.94	0.89	
Hedonic Motivations	I have a most preferred brand of automobiles.	4.12	0.81	0.75
	Seeking car-related information gives me a feeling of enjoyment.	4.04	0.80	
	Compared to other things, searching for car information is really enjoyable.	3.95	0.77	
Utilitarian Motivations	I enjoy seeking car information for its own sake, not just for the information I find.	3.77	0.93	0.71
	Success in car information search is finding what I'm looking for.	3.70	0.92	
	I'd like to gain car information with no time wasted.	3.63	0.96	
	I am disappointed when I have to search a lot of sources for what I need for cars.	3.62	0.95	

Car attributes and channel services

The metrics of the relative importance of the various car attributes and the channel output services were taken from Klein and Ford^[37], Satish and Bharadhwaj^[2] and Coughlan et al.^[38] and together they exhibit good reliability ($\alpha = 0.86$; see Table 2).

Sources of information

The measure of information sources was taken from van Rijnsoever, Castaldi, and Dijst^[1]. Four types of external information sources are identified – interpersonal, car dealers, Internet, and mass media. To measure the consultation frequency of information sources, this construct begins with a question: "If you want to purchase a car, what information sources would you consult to gain required information about cars?" The scale used to measure them exhibits good reliability ($\alpha = 0.79$; see Table 1).

Enduring involvement

Five items from Zaichowsky's^[39] cognitive involvement inventory were utilized. The scale used to score these items exhibits high reliability ($\alpha = 0.83$; see Table 1).

Hedonic and utilitarian motivation

The measure of hedonic and utilitarian motivation for car information search was adopted from Hartman et

al.^[26] and Babin, Darden, and Griffin^[9]. Both corresponding scales have good reliability ($\alpha = 0.75$, 0.71; see Table 1).

Intention to purchase

To measure intention to purchase a car, the following three statements were scored. "Recently, I plan to go to the dealership to try out cars.", "Within a year, I would consider buying a car at a promotional price.", and "Within six months, I would consider buying a car." The scale on which these statements were scored exhibits good reliability ($\alpha = 0.80$).

IV. DATA ANALYSIS

Segmentation

Market segmentation is the very first step of marketing management in which customers are grouped into segments with similar needs and buying behavior^[1, 2]. To understand more specifically the valued auto characteristics of customers in the Chaoshan area, this study segmented respondents into groups based on similarity of their importance scores of the car attributes and channel output services.

Factor analysis

In this section, factor analysis was performed to reduce the 16 variables associated with car attributes and channel services to a smaller and more interpretable set of factors. Owing to their low factor loadings (lower than 50%), size of vehicle and engine capacity were dropped. Applying Kaiser's rule, with eigenvalues of over 1.0, yielded four factors that accounted for 59.21% of the total variance of their importance scores (Table 2). Factor 1, comprising fuel consumption, vehicle price, warranty, maintenance, and repair costs, is "Value for money". Factor 2, comprising driving comfort, engine performance, safety and reliability, and manufacturer's reputation, is "Performance and safety". Factor 3, comprising exterior and interior styling and color, is "Styling and color". Finally, Factor 4, including spatial convenience, waiting time, customer service, and information provision, is "Channel service".

Table 2
Factor loadings of measure items related to attributes of new cars.

Factors	Components	Factor loadings
Factor 1 Value for money	Fuel consumption	0.66
	Vehicle price	0.72
	Warranty	0.75
	Maintenance and repair cost	0.77
Factor 2 Performance and safety	Driving comfort	0.68
	Engine performance	0.55
	Safety and reliability	0.78
	Manufacturer's reputation	0.68
Factor 3 Styling and color	Exterior and interior styling	0.87
	Color assortment	0.76
Factor 4 Channel service	Spatial convenience	0.66
	Customer service	0.58
	Information provision	0.56
	Waiting time	0.71

Cluster analysis

The indices identified by two-step cluster analysis were used to identify subpopulations of respondents and their relationships to the importance scores of car attributes and channel services. Based on the output, two segments are identified (Table 3). Cluster 1 (168 respondents) features high-scored factors: performance and safety (4.85), styling and color (4.61), value for money (4.54), channel service (4.54) and is labeled "all-attribute purchasers". Cluster 2 (386 respondents) scores performance and safety most highly (4.16), following by channel service (3.81), value for money (3.74), and styling and color (3.71). This group cares mostly about the vehicle's performance and safety and is called "basic purchasers".

Table 3
Segments and their factor average scores

Factors	Cluster 1	Cluster 2
Performance and safety	4.85	4.16
Styling and color	4.61	3.71
Value for money	4.54	3.74
Channel service	4.54	3.81
Respondents	168	386

T-Test

Table 4 presents the t-test analysis of the two identified clusters. The t-values of the variables, except for education level, inhabitants, and the number of privately-owned cars, exhibit significance, supporting the fact that cluster means differ significantly. With respect to the control variables, Cluster 1 includes more female respondents and a higher household income than Cluster 2. In contrast, Cluster 2 is older on average than the other.

With respect to the mean values, Cluster 1 scores higher on interpersonal search, dealer search, Internet search, and mass media search than Cluster 2. Based on the factor scores above, members of Cluster 1 are interested in all car attributes and would logically search for more information from various channels. Cluster 1 also exhibits the stronger involvement, hedonic and utilitarian motivation and purchase intention. Andrews, Durvasula, and Akhter^[40] proposed that involvement is an internal state of individual arousal with intensity, direction, and persistence properties. The relevance and importance of car attributes and channel services to respondents evoke their involvement; hence, Cluster 2 that scores lower on all car features and services exhibits less involvement. The high involvement in Cluster 1 is also an important factor in obtaining pleasure^[33] or instrumental value^[25] during a search for retail products, possibly accounting for its having the high hedonic and utilitarian motivation.

Table 4
Means, standard deviations, and t-values of variables per cluster.

Variables	Cluster 1 Mean (S.D.)	Cluster 2 Mean (S.D.)	t-value
Gender (male=1, female=2)	1.52(0.50)	1.41(0.49)	2.34*
Age	25.50(4.68)	32.00(3.32)	- 5.22***
Education level	3.30(1.13)	3.46(1.12)	- 1.49
Inhabitants	1.93(0.68)	1.87(0.65)	0.88
Household Income	2.44(1.33)	2.10(1.05)	2.93**
The number of privately-owned cars	2.02(0.88)	1.91(0.75)	1.43
Interpersonal search	3.65(0.89)	3.19(0.76)	5.77***
Dealer search	3.53(1.03)	3.04(0.86)	5.27***
Internet search	3.83(1.00)	3.43(0.97)	4.40***
Mass media search	3.72(0.87)	3.28(0.77)	5.81***
Involvement	3.97(0.72)	3.57(0.61)	6.28***
Hedonic motivation	4.17(0.61)	3.69(0.59)	8.49***
Utilitarian Motivation	3.77(0.77)	3.56(0.71)	2.94**
Purchase intention	3.26(0.85)	2.94(0.70)	4.19***

HMR analysis

The proposed hypotheses were validated through hierarchical moderated regression. To begin with, the effects of control variables, such as age, gender, education level, monthly household income, number of inhabitants and number of private-owned cars were tested in Model 1. Next, the predicting variables, involvement, hedonic motivations and utilitarian motivations, were entered in Model 2 to test Hypothesis 1, 2 and 3. Last, the interaction terms were included in Model 3 to test Hypothesis 4 and 5. Moderation terms often create multicollinearity problems because of their correlations with the corresponding lower-order terms. Hence, the predictors were all centered before entering the regression models.

HMR analysis for Cluster 1

Table 5 displays the results of HMR analysis for Cluster 1. Model 1 presents some interesting results in different information searches. First, gender negatively affects Internet search ($\beta = -0.32$, $p < 0.001$) and mass media search ($\beta = -0.20$, $p < 0.05$). Females prefer acquiring information about cars from family and friends, while males tend to obtain it over the Internet. This finding can be explained by the difference between the learning styles of men and women [1, 41]. Second, age is positively related to interpersonal search ($\beta = 0.14$, $p < 0.05$). In China, older consumers habitually consult relatives and friends while purchasing expensive items because of their stronger social networks, which contradicts the findings of van Rijnsoever, Castaldi, and Dijst^[1]. Third, education level has a negative effect on the tendency to conduct an interpersonal search for information ($\beta = -0.18$, $p < 0.05$) but a positive influence on the tendency to search the Internet ($\beta = 0.19$, $p < 0.05$). Education level can be regarded as a measure of general prior knowledge^[1]; therefore,

respondents with extensive knowledge of cars may not think they need to ask people around them for more information on the subject. The results concerning the use of the World Wide Web are in line with the findings of van Rijnsoever, Castaldi, and Dijst^[1] and Ratchford, Talukdar, and Lee^[36]. Last, the number of privately-owned cars positively affects the tendency to conduct an interpersonal search for information ($\beta = 0.34$, $p < 0.01$) or a search for information from dealers. ($\beta = 0.47$, $p < 0.001$). In Chaoshan, private cars symbolize people's status. Car owners prefer to collect cars and show off their collections; they can exchange their experiences, and socialize face-to-face with family, friends and car dealers.

The direct effects of independent variables on information search were tested in Model 2 of the hierarchical regressions. Involvement positively affects the use of all information sources ($\beta = 0.29$, $p < 0.001$ in dealer search; $\beta = 0.43$, $p < 0.001$ in Internet search; $\beta = 0.34$, $p < 0.001$ in mass media search), except for interpersonal search, partially supporting H₁. For highly-involved respondents, who are more knowledgeable about cars than their family and friends, interpersonal search is their last channel for obtaining auto information. Furthermore, hedonic motivations positively influence only two channel searches: interpersonal search and dealer search ($\beta = 0.26$, $p < 0.001$; $\beta = 0.16$, $p < 0.05$), partially supporting H₂. Since Cluster 1 is interested in all attributes of a car and exhibits high hedonic values, that subpopulation greatly appreciates the rich social experience of seeking information from other people and dealers^[9, 25, 35], which the other channels, Internet and mass media, cannot provide. However, utilitarian motivations fail to exhibit significant impacts on all channel searches. H₃ is not supported.

Table 5
HMR analysis for different information sources for basic purchasers (Cluster 2)

Variables	Interpersonal Search			Dealer Search			Internet Search			Mass Media Search		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Control Variables												
Gender	0.20***	0.26***	0.26***	-0.03	0.04	0.03	-0.29***	-0.17***	-0.17	0.04	0.04	0.03
Age	0.01	0.00	0.00	-0.06	-0.07	-0.06	0.03	0.00	0.00	0.01	0.01	0.01
Education Level	0.06	0.05	0.06	0.02	0.01	0.01	0.10*	0.10*	0.09	0.08	0.07	0.06
Inhabitants	-0.05	-0.04	-0.04	-0.04	-0.03	-0.03	-0.03	-0.00	-0.01	0.02	0.03	0.03
Household Income	-0.03	-0.03	-0.03	0.05	0.05	0.05	0.02	0.02	0.02	0.10*	0.10*	0.10*
Number of privately-owned cars	0.01	-0.02	-0.02	-0.03	-0.07	-0.07	0.02	-0.05	-0.05	0.03	-0.02	-0.02
Predicting Variables												
Involvement		0.17**	0.18**		0.17**	0.16**		0.39***	0.39***		0.19**	0.18**
Hedonic Motivation		0.13*	0.14*		0.17**	0.16**		0.12*	0.11*		0.23***	0.22***
Utilitarian Motivation		0.07	0.07		0.02	0.02		0.06	0.06		0.11*	0.11*
Interaction												
Involvement x Hedonic Motivation			0.08			-0.07			-0.03			-0.09*
Involvement x Utilitarian Motivation			0.03			0.01			0.02			0.01
F-value	3.14**	5.44***	4.74***	0.55*	3.89***	3.35***	7.04***	17.41***	14.26***	1.66*	7.76***	6.73***
R²	0.05	0.12	0.12	0.01	0.09	0.09	0.10	0.29	0.30	0.03	0.16	0.19
ΔR²	0.05	0.07	0.01	0.01	0.08	0.00	0.10	0.19	0.01	0.03	0.13	0.03

*** $p < 0.001$.

** $p < 0.01$.

* $p < 0.05$.

Model 3 tests the moderating effects. A positive significant relationship only exists between involvement and hedonic motivation in searching for information from dealers ($\beta = 0.17$, $p < 0.05$). H_4 is partially supported. Respondents with higher hedonic motivation exhibit stronger involvement in dealer search. Involved consumers are sure about the best sources of their information. Car dealers periodically brainstorm creative ideas for activities and events that attract potential buyers. Unlike interpersonal sources,

these activities and events in dealerships or auto fairs can provide all-attribute car buyers with not only extensive information but also additional hedonic value^[9, 35]. Such in-person visits to knowledgeable information sources attract highly-involved consumers. Therefore, hedonic, highly-involved shoppers are more inclined to search for information from dealers. In contrast, the intervening role of utilitarian motivations is not significant. H_5 is not supported.

Table 5
HMR analysis for different information sources for all-attribute purchasers (Cluster 1).

Variables	Interpersonal Search			Dealer Search			Internet Search			Mass Media Search		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Control Variables												
Gender	-0.09	-0.01	-0.01	0.09	0.03	0.05	-0.32***	-0.17*	-0.18*	-0.20*	-0.06	-0.07
Age	0.14*	0.14*	0.14*	0.02	0.02	0.04	-0.07	-0.08	-0.10	-0.02	-0.03	-0.03
Education Level	-0.18*	-0.19*	-0.18*	-0.00	-0.02	0.07	0.19*	0.17*	0.15*	0.04	0.02	0.02
Inhabitants	-0.13	-0.07	-0.07	-0.09	-0.04	-0.02	-0.03	-0.01	-0.01	-0.14	-0.09	-0.10
Household Income	-0.03	-0.03	-0.03	-0.21	-0.22	-0.21	0.07	0.04	0.04	-0.06	-0.08	-0.08
Number of privately-owned cars	0.34**	0.25**	0.25**	0.47***	0.39***	0.38***	0.10	0.04	0.05	0.17	0.19*	0.19*
Predicting Variables												
Involvement		0.13	0.13		0.29***	0.32***		0.43***	0.40***		0.34***	0.35***
Hedonic Motivation		0.26***	0.26***		0.16*	0.19*		0.04	0.02		0.12	0.11
Utilitarian Motivation		0.04	0.03		0.01	-0.01		-0.04	-0.02		0.02	0.01
Interaction												
Involvement x Hedonic Motivation			0.04			0.17*			-0.13			-0.01
Involvement x Utilitarian Motivation			0.05			0.02			-0.04			0.04
F-value	4.96***	6.07***	4.97***	4.75***	6.56***	5.95***	4.63***	8.02***	6.91***	2.68*	5.16***	4.21***
R²	0.16	0.26	0.26	0.15	0.28	0.31	0.15	0.32	0.33	0.09	0.23	0.23
ΔR²	0.16	0.10	0.00	0.15	0.13	0.03	0.15	0.17	0.01	0.09	0.14	0.00

*** $p < 0.001$

** $p < 0.01$

* $p < 0.05$

HMR Analysis for Cluster 2

The results of HMR analysis for Cluster 2 are shown in Table 6. First, check the significance of control variables in Model 1. Unsurprisingly, females in Cluster 2 prefer to collect information about cars interpersonally ($\beta = 0.20$, $p < 0.001$), while males prefer to do it on-line ($\beta = -0.29$, $p < 0.001$). High education also exhibits a positive relationship with Internet search ($\beta = 0.10$, $p < 0.05$). A new finding shows income has a positive effect on mass media search ($\beta = 0.10$, $p < 0.05$). With the low income (approximately US\$ 1000 monthly per household), low purchase intention ($m=2.94$), and old age ($m=32$), members of this cluster may consider car purchasing secondary for the time being because of their heavy economic burden of new families. However, if they plan to buy cars, they favor low-end cars with basic equipment as they are not concerned with value for money or styling and color. Therefore, as the income increases, basic purchasers consult television, magazines, and newspapers, which provide limited and less interactive content, to quench their thirst of curiosity or meet their basic needs about automobile information.

In Model 2, both involvement and hedonic motivations exhibit positive effects on the use of all sources of information, supporting H_1 , H_2 . High-involvement customers tend to use all sources of information and so do these highly hedonistic

consumers. Hedonic motivations tend to seek information through participation and interaction^[25,29]. Compared to interpersonal sources and dealers, the Internet and mass media are less interactive during the whole process of information search. With low involvement, these basic-purchasers may also likely seek the value of participation, such as reading and asking in web forums or enjoying themselves via conventional news agendas. After all, utilitarian or hedonic benefits of information sources are determined by the values provided for the consumer^[27]. Moreover, utilitarian motivations is positively but weakly related to mass media search ($\beta = 0.11$, $p < 0.05$). H_3 is partially supported. Goal-oriented consumers would rather browse information on mass media than participate in other high-interaction information sources^[25].

However, in Model 3, the results herein also reveal that hedonic motivations negatively interact with involvement in mass media searches ($\beta = -0.09$, $p < 0.05$): higher hedonic motivations correspond to less involvement in the search for information about cars in the mass media because of the limited informational content and time^[1]. Mass media are less associated with the community and less interactive than the other information sources, so hedonic motivation weakens the effects of involvement in mass media searches. This result does not support H_4 . Likewise, the intervening role of

utilitarian motivations is insignificant for basic purchasers. H_5 is not supported.

V. DISCUSSION AND CONCLUSIONS

This study mainly investigates how hedonic and utilitarian motivations affect the sources of information that are used by buyers of cars. Generally, involvement is positively correlated with the use of all information sources. Basic car buyers with high hedonic motivation tend to obtain information from all sources, while all-attribute purchasers visit members of their own communities for pleasure. Furthermore, the utilitarian motivations only have a positive effect on mass media search of basic buyers. The hedonic motivations of basic buyers negatively interact with involvement in searches of mass media content because this is less interactive than the other information sources. The hedonic motivations of all-attribute purchasers strengthen their involvement in searches for information from dealers because doing so provides social enjoyment.

Managerial implications

The results of this study have several managerial implications. On average, all attribute purchasers are young adults, most of whom were born around 1990 and have been fully cared by their families since childhood. Car ownership by this cluster is seen as "having a face" to symbolize their social status^[42]. Besides, they can even afford expensive goods far beyond their own earnings due to financial support from their parents. Hence, to attract these highly-involved consumers, manufacturers can add hedonic components to dealer channels. First, they may sponsor car clubs, or organize car carnivals as gatherings for the launch of new cars to tempt car hedonists. Second, marketers may plan family-focused campaigns, such as making advertising slogans "cars for your beloved family" or holding test drive for family members, to stimulate car owners' repeat purchases. The share of income of urban Chinese that will be spent on recreation and transportation will rise to 36% by 2020^[43]. Therefore, the concept of transforming cars from vehicles to collectables can be used in marketing. Basic purchasers account for more than two thirds of the sample. They, mostly in early thirties, are proceeding to the stage of setting up their own families. Owning a car is tempting but may not be their first concern due to the limited budget. However, they still prefer to hedonically quest for car knowledge through all information sources. To engage these low-involved customers, marketers should promote low-priced, standard-equipped vehicles by sponsoring interactive, brand-related activities in mass media or on the websites. The spread of information through mass media and online shapes a brand's image over the long term.

For all prospects, marketers should establish a social network of current customers. According to Cao^[44], 31% of Chinese first-time car buyers consider family and friends their most trustworthy sources of information. Car dealers can take advantage of this fact by maintaining long-term relationships with their customers through interactions at each visit or contact. By doing so can the dealers establish the customers' commitment to buyer-dealer relationships. Additionally, committed customers can become reliable sources of information for their family or friends who are considering purchasing cars. Next, website content can be improved or a Q&A platform can be established on some professional car blogs. According to Dixit^[43], 45% of prospective auto buyers check the Internet for other people's comments. Last, the needs of female buyers should be addressed. In China, the entry of females into the economy and politics has resulted in a surface of female car ownership over the past decade^[45]. Women need cars not only to demonstrate social status but also, and more so, for daily life^[42]. The enhancement of Chinese women's mobility and driving pleasure should be a key goal for car makers. Chinese females rely heavily on word of mouth as information sources of automobiles. The social network of committed customers can be an influential source for female buyers.

Limitations and suggestions for future research

This study has some limitations. This study was limited to the Chaoshan area, and the results obtained may not be completely generalizable to the whole of China. Also, the size and number of clusters are likely to differ across product categories and purchase situations. With respect to possible future research, researchers may use channel services to finely segment the target market. End-users purchase products and services of every category. *Ceteris paribus*, end-users prefer a higher level of service outputs^[38]. For costly, high-tech products (such as cars, cell-phones, computers), service outputs seem to be more important to buyers, than is the product, itself.

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