

A STUDY OF THE IMPACT OF BRAND VALUE OF NEW ENERGY AUTOMOBILE INDUSTRY ON CONSUMERS' PURCHASE INTENTION, WITH BRAND PERSONALITY AS AN INTERMEDIARY VARIABLE*

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Abstract

With the world's continuous attention to energy conservation and environmental protection, the era of new energy vehicles is coming, and all over the world are actively developing the new energy vehicle industry. As the world's largest automobile consumer country, China pays more attention to vigorously developing the new energy vehicle industry.

This research is based on the brand construction of new energy vehicle enterprises, to brand value, the relationship between brand personality and consumer purchase willingness as the research problem, through the questionnaire survey of data collection, analysis, finally verify the hypothesis model, brand personality plays an intermediary role between brand value and consumer willingness to buy. At the same time, the research results found that the functional value of the brand value had the most significant effect on the purchase intention; the "courage", "benevolence" and "Happy" had the most significant effect on the purchase intention. In the study of the intermediary effect, the brand value has the most significant effect on the purchase intention through the three dimensions of "brave", "Benevolence" and "Happy".

Keywords: New energy vehicle industry; brand value; brand personality; consumer willingness to buy

Introduction

In recent years, with the rapid development of China's economy, people's income level has continued to improve. In order to be the necessary items for more and more families, so far, China's total automobile warranty has ranked among the top in the world, and is growing rapidly every year. But with the increase of the number of cars, car exhaust damage to the environment is going to be more serious. PM2.5, resulting from automobile exhaust, is one of the major sources of air pollution in most Chinese cities in recent years. With the aggravation of environmental pollution and excessive energy consumption is more and more severe, the government departments and many automobile enterprises will put more and more energy on the development of new energy vehicles, the development of new energy vehicles can undoubtedly solve the current environmental pollution and energy consumption problems from the source. New energy vehicles do not rely on fossil energy to generate power like traditional vehicles, but use innovative power engine technology to operate new clean energy such as electric energy and solar energy as power sources. Therefore, the use of non-fossil

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energy largely reduces the pollution caused by the use of cars.

Objectives

1) studies the formation process of the brand value in the new energy and new energy vehicle industry. Through literature review, the concepts and dimensions of domestic and foreign scholars on brand value are analyzed and summarized, and the scale suitable for the applicable brand value dimensions and measurement in the new energy and new energy vehicle industry is summarized.

2) studies whether it can influence consumers' willingness to buy through the brand value and brand personality of new energy vehicles. This paper will establish the relationship model of new energy vehicle brand value, brand personality and consumer purchase will, collect data through the form of questionnaire, and verify and analyze the research hypothesis through data analysis.

3) According to the research results, put forward reasonable marketing suggestions for the new energy and new energy vehicle industry.

Material and Method

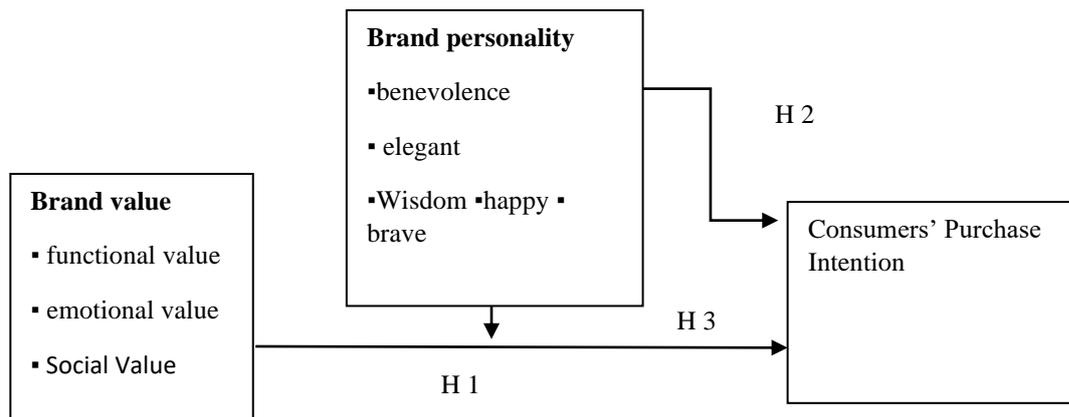
1. Literature review

"New energy" refers to new sources of energy different from general fossil sources such as coal, oil, natural gas, such as electricity, solar, biomass, wind, geothermal energy and so on. At present, in the new energy vehicle industry, there are five main types of new energy vehicles on the market: Hybrid Electric Vehicles, Blade Electric Vehicles, Gas Vehicles, Bio Fuel Vehicles, Hydrogen fuel cell electric vehicle. The concept of "brand" first appeared in the Navavian word "Brandr", originally meaning "branding", a marker made by people to distinguish the livestock they own, which later evolved into a tool to identify different vendor merchants. The concept of brand value prevailed in the West in the 1980s. In the original study, brand value was mainly defined around the product itself, and some scholars believe that brand value is an additional value beyond the use value of the product, which can bring additional cash flow return to the product or its services. Aaker endows the brand with a unique personality or personality, which can be called a brand personality. Keller believes that brand personality has the same characteristics as personality. Brand personality can let consumers better understand the brand and understand the ideas and values conveyed by the brand. Consumers' willingness to buy comes from the perspective of psychological "will", mainly to express the probability or subjective intention of a certain behavior. With the help of relevant domestic and foreign literature, it can be seen that many scholars have conducted various surveys on consumers' willingness to buy. Mullet, Karson believes that consumers' willingness to purchase can be accurately estimated from consumers' purchase probability, in which consumers' willingness to purchase is proportional to the purchase probability. In the dimension of brand personality, each country has certain local characteristics. According to the existing literature, Aaker's "Big Five" personality theory is the most widely used, and the five dimensions of brand personality developed based on the existing research of Aaker have been studied by a large number of scholars. Wang Baolin once pointed out that in China's new energy vehicle industry, international brands have an obvious premium effect relative to local brands. Every time consumers make a decision, it is affected by the previous shopping

experience, and this impact is largely able to determine the purchase decision of this purchase. The brand value of new energy vehicles will be passed on to consumers through brand personality, and by increasing the willingness of new energy vehicles to fit more with consumers by making the brand personality of new energy vehicles. Therefore, in the brand value and the relationship model of new energy vehicles, brand personality plays an intermediary role.

2. Research hypothesis

Through the analysis of relevant literature, this research puts forward the mechanism between brand value, brand personality and consumer purchase willingness: for new energy vehicle consumers, new energy vehicles itself is a certain innovative attributes, consumers in the process of purchasing decision hesitation, and when new energy vehicles have good brand value, can effectively shorten the distance between products and consumers, can let consumers have a deeper understanding of the brand, products, so that through attitude, subjective norms and perceptual behavior control influence consumers' purchase intention. At the same time, when the brand personality of new energy vehicles resonates with consumers, then consumers' attitude towards this brand will be greatly affected, thus affecting their willingness to buy. The resulting theoretical framework for the hypotheses of this study is shown in Fig.



Brakus pointed out in the study that the brand value of the product has some impact on both the consumer satisfaction and loelegantlty to the brand. Through the research of retail brands, Khan and Rahman's brand value can promote consumers' cognition of the product. If the brand value of the product is very high, it will make consumers have a good impression in advance before use, and this goodwill will continue to play a role in the subsequent shopping process. This thesis presents the hypothesis through the above analysis:

H1: The brand value of new energy vehicles has a significant positive impact on consumers' willingness to buy.

The functional value of H1a: new energy vehicle brand has a significant positive impact on consumers' willingness to buy.

The emotional value of H1b: new energy vehicle brand has a significant positive impact on consumers' willingness to buy.

The social value of H1c: new energy vehicle brand has a significant positive impact on consumers' willingness to buy.

H2: new energy vehicle brand personality has a significant positive impact on consumers' willingness to buy.

H2a: The "benevolence" dimension of new energy vehicle brand personality has a significant positive impact on consumers' willingness to buy.

H2b: The "elegant" dimension of new energy vehicle brand personality has a significant positive impact on consumers' willingness to buy.

H2c: The "wisdom" dimension of new energy vehicle brand personality has a significant positive impact on consumers' willingness to buy.

H2d: The "happy" dimension of new energy vehicle brand personality has a significant positive impact on consumers' willingness to buy.

H2e: The "brave" dimension of new energy vehicle brand personality has a significant positive impact on consumers' willingness to buy.

H3: brand personality plays an intermediary role between brand value and consumers' willingness to buy.

H3a: The five dimensions of "benevolence", "elegant", "wisdom", "happy" and "brave" of brand personality all play a partial intermediary role between the functional value and consumers' willingness to buy.

H3b: The five dimensions of "benevolence", "elegant", "wisdom", "happy" and "brave" of brand personality all play a partial intermediary role between emotional value and consumers' willingness to buy.

H3c: The five dimensions of "benevolence", "elegant", "wisdom", "happy" and "brave" of brand personality all play a partial intermediary role between social value and consumers' willingness to buy.

Results and Discussion

Descriptive statistical results

1. descriptive statistical analysis

Sample demographic characteristics (N=466)			
Statistical variables	Classification	Frequency number	Percentage (%)
Gender	Male	282	60.51
	Female	184	39.49
Age	Under 24 years of age	97	20.81
	25-29	62	13.30
	30-34	108	23.18
	35-39	115	24.68
	More than 40 years of age	85	18.23
Whether to buy a car	There is	279	59.87
	No	187	40.13
Buy car price	Less than 10 0,000 yuan	57	12.23
	11 0-20 0,000 yuan	250	53.65
	21 0-30 0,000 yuan	104	22.32
	31 0-40 0,000 yuan	23	4.94
	More than 40 0,000 yuan	32	6.87
Degree of education	Specialist	114	24.46
	Undergraduate	268	57.51
	Postgraduate student or above	30	6.44
	Other	54	11.59
Monthly disposable income	Under RMB 5,000 yuan	192	41.20
	RMB 50-RMB 10,000	168	36.05
	10,000 yuan-20,000 yuan	73	15.67
	More than 20,000 yuan	33	7.08

Source: The author sorted according to SPSS23.0 analysis

2. Reliability analysis

Results of the Cronbach's α coefficient analysis of the study variables

Variables	Question item	Cronbach's α coefficient
Brand value	10	0.938
Brand personality	15	0.887
Pursuant to buy	5	0.933
Scale as a whole	30	0.959

Source: The author sorted according to SPSS23.0 analysis

The Cronbach's α coefficient of each dimension, each variable and total samples was calculated between 0.887 and 0.959. It shows that the data reliability of various variables is good and the overall Cronbach's α coefficient of the scale reached 0.959, which shows that the overall questionnaire has high reliability and good internal consistency.

3. Effects analysis

(1) Brand value validity analysis

Brand value KMO-value and Bartlett spherical test

KMO values		0.982
Approximate chi square		10466.711
Bartlett spherical test	Liberty	66
	Significance	0.000

Source: The author sorted according to SPSS23.0 analysis

(2) Brand personality validity analysis

Brand personality KMO-value and Bartlett spherical test

KMO values		0.907
Approximate chi square		4061.696
Bartlett spherical test	Liberty	10
	Significance	0.000

Source: The author sorted according to SPSS23.0 analysis

(3) Analysis of consumers' willingness to buy the validity degree

KMO value and Bartlett spherical test

KMO values		0.903
Approximate chi square		3838.711
Bartlett spherical test	Liberty	10
	Significance	0.000

Source: The author sorted according to SPSS23.0 analysis

Summarize the above results, the KMO values of the three variables in this paper were greater than 0.8 and all showed significant states, indicating that the effectiveness of the overall questionnaire was pass and the next step can be conducted.

4. Correlation analysis

Table of the Pearson correlation matrix

	Functional value	Emotional value	Social value	Pursuant to buy	Ren	elegant	Wisdom	Le	Brave
Functional value	1.000								
Emotional value	.566**	1.000							
Social value	.385**	.475**	1.000						
Pursuant to buy	.655**	.455**	.352**	1.000					
benevolence	.553**	.384**	.380**	.280**	1.000				
elegant	.062	.165*	.009	.087	.165*	1.000			
Wisdom	.387**	.359**	.264**	.378**	.384**	.084*	1.000		
Happy	.503**	.379**	.253**	.503**	.455**	.187**	.308**	1.000	
Brave	.493**	.525**	.377**	.630**	.488**	.095**	.387**	.471**	1.000

Note: * p <0.05, ** p <0.01

Source: The author sorted according to SPSS23.0 analysis

From the above table, we can see that the correlation between the "elegant" variables of the new energy vehicle brand personality and the other variables designed in the article is relatively small, and it is not significant. While the correlation among other variables beyond "elegant" was significant positive relations. 630In this, the correlation coefficient between the purchase willingness variable and the functional value variable is 0.655, and the correlation coefficient between the purchase willingness variable and the "Brave" variable is 0, which is the two variables with the highest correlation value, which is the strongest correlation between the functional value and the variable "Brave", but how the causal relationship needs to be proved by the next regression analysis.

5. Regression analysis

coefficient of brand value on consumer willingness to buy

model	Unstandardized coefficients		Standardization coefficients	t	Significance	VIF
	B	Standard error	Beta			
(constants)	.437	.146		3.068	.002**	
1 Functional value	.374	.045	.109	2.393	.000*	2.325
Emotional value	.077	.041	.344	8.361	.000**	1.527
Social value	.115	.033	.074	2.317	.019*	1.309

Source: The author sorted according to SPSS23.0 analysis

coefficient of brand personality on consumers' willingness to buy						
model	Unstandardized coefficients		Standardization coefficients	t	Significance	VIF
	B	Standard error	Beta			
(constants)	.493	.151		4.035	.002*	
2 Benevolence	.254	.034	.219	6.155	.000**	1.683
elegant	.025	.029	.022	.669	.457	1.110
Wisdom	.092	.033	.077	2.198	.003*	1.598
Happy	.192	.032	.208	5.897	.000**	1.594
Brave	.279	.034	.307	8.261	.000**	1.841

Source: The author sorted according to SPSS23.0 analysis

6. Validation results

According to the analysis results made above, the passing of the hypothesis tests is summarized, as shown in the table:

Summary of the hypothesis test validation results	
Assume content	Test results
H1: brand value and purchase willingness have an influential effect	Through
H1a: functional value has an effect on consumers' willingness to buy	Through
H1b: emotional value has an impact on consumers' willingness to buy	Through
H1c: social value has an impact on consumers' willingness to buy	Through
H2: brand personality and consumers' willingness to buy have an influential effect	Through
H2a: "benevolence" has an impact on consumers' willingness to buy	Through
H2b: "elegant" has an impact on consumers' willingness to buy	Failed to pass
H2c: "wisdom" has an impact on consumers' willingness to buy	Through
H2d: "happy" has an impact on consumers' willingness to buy	Through
H2e: "Brave" has an impact on consumers' willingness to buy	Through
The H 3: brand personality plays an intermediary role between the brand value and the willingness to buy	Through

The H 3a: brand personality plays an intermediary role between the functional value and the willingness to buy	Through
H 3a 1: "benevolence" plays a mediator between functional value and willingness to buy	Through
H 3a 2: "elegant" plays an intermediary role between the functional value and the willingness to buy	Failed to pass
H 3a 3: "intelligence" plays an intermediary role between the functional value and the willingness to buy	Failed to pass
H 3a 4: "happy" plays a role between functional value and willingness to buy	Through
H 3a 5: "Brave" plays an intermediary role between the functional value and the willingness to buy	Through
The H3b: brand personality plays an intermediary role between the emotional value and the willingness to buy	Through
H3b 1: "benevolence" plays an intermediary role between the emotional value and the willingness to buy	Through
H3b 2: "elegant" plays an intermediary role between the emotional value and the willingness to buy	Failed to pass
H3b 3: "intelligence" plays an intermediary role between the emotional value and the willingness to buy	Failed to pass
H3b 4: "happy" plays an intermediary role between the emotional value and the willingness to buy	Through
H3b 5: "Brave" plays an intermediary role between the emotional value and the willingness to buy	Through
The H3c: brand personality plays an intermediary role between the social value and the willingness to buy	Through
H3c 1: "benevolence" plays an intermediary role between the social value and the willingness to buy	Through
H3c 2: "elegant" plays an intermediary role between the social value and the willingness to buy	Failed to pass
H3c 3: "wisdom" plays an intermediary role between the social value and the willingness to buy	Failed to pass
H3c 4: "happy" plays an intermediary role between the social value and the willingness to buy	Through
H3c 5: "Brave" plays an intermediary role between the social value and the willingness to buy	Through

Source: the author arranges it by myself

Conclusion

1. Results of the influence of the brand value of new energy vehicles on the purchase intention

Through the previous research and analysis, the brand value of new energy vehicles has a significant positive impact on consumers' willingness to buy. Through the contact with the new energy vehicle brands, consumers have specific feelings about the brand value, so that the brand value establishes an image in the hearts of consumers. Consumers' recognition of the brand value affects consumers' willingness to buy.

2. Research results of the influence of new energy vehicle brand personality on the purchase willingness

Through the previous research and analysis, it is concluded that the new energy vehicle brand personality has a significant positive impact on consumers' willingness to buy. In the personality dimension of new energy vehicle brand, "brave" has the strongest impact effect, "benevolence" and "happy" influence the second, and "elegant" does not have a significant impact. It shows that new energy vehicle brands with "brave" personality are easier to make consumers feel willing to buy. At the same time, in terms of age differentiation, young consumer groups pay more attention to "brave", while middle-aged and elderly consumer groups pay more attention to "happiness".

3. The Mediation Effect of New Energy Vehicle Brand Personality

Through the previous research and analysis above, it is concluded that the new energy vehicle brand personality plays some intermediary role in the positive influence of the brand value of new energy vehicles on consumers' willingness to buy. Moreover, the direct effect value is 0.562, and the indirect effect value is 0.310, increasing the direct effect by about 52.4%. According to the previous data analysis, three optimal paths are summarized, according to the impact effect from large to small are: new energy vehicle brand value \Rightarrow Brave \Rightarrow consumers to buy, new energy vehicle brand value \Rightarrow benevolence \Rightarrow consumers to buy, new energy vehicle brand value \Rightarrow Le \Rightarrow consumers to buy. The intermediary effect of "benevolence" and "happy" has a similar influence effect.

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