

BRA 이론과 환경 인지 이론에 기초한 신에너지 자동차 구매 의도에 영향을 미치는 요인에 관한 연구

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A Research on Influencing Factors of New Energy Vehicle Purchase Intention Based on BRA Theory and Environmental Cognitive Theory

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● 요 약 ●

The purpose of this paper is to explore the factors affecting the purchase intention of new energy vehicles, utilizing the BRA and VAM models. Based on self-interest and altruism, a model for willingness to use new energy vehicles was developed. Through analysis with analytical tools such as SPSS and AMOS, we obtained the following conclusions: Perceived value, perceived entertainment, and environmental values all have a significant positive impact on the purchase intention of new energy vehicles; Perceived risk has a negative impact on purchase intention. By conducting this research, useful suggestions can be made for the formulation of enterprise strategies, and new directions and inspirations can be provided for enterprises.

키워드: New Energy Vehicles, Environmental Protection Values,
Perceived Benefit-Perceived Risk Model, Purchase Intention

I. Introduction

The future development of the automobile industry lies in new energy vehicles. Due to their imperfect understanding of the quality, features, and potential risks associated with new energy vehicles, consumers have not fully expressed their willingness to purchase these vehicles. Medicos, Ribeiro, and Cortimiglia (2016) have shown that consumers are willing to pay a premium for green products such as new energy vehicles, and that their purchase intentions reflect their trade-off between perceived risk and perceived value. In addition to exploring consumers' purchase intentions from the perspective of self-interest, it is also necessary to consider altruistic factors such as environmental cognition.

Therefore, this paper aims to explore, through a literature review, the factors influencing the purchase intention of new energy vehicles based on perceived benefit and perceived risk. Investigate how to eliminate consumers' perceived risks associated with new energy vehicles and improve perceived value, as well as the impact of environmental values on purchase intentions, and propose new directions for corporate strategy formulation.

II. Literature review and research hypotheses

1. Literature Review

In recent years, many scholars have explored how perceived value affects the decision to purchase green products. Consumers' purchase intention is positively influenced by perceived value for green products such as environmentally friendly home appliances and environmentally friendly furniture. Since new energy vehicles are environmentally friendly green products, their perceived value composition needs to be further explored.

Providing a high level of entertainment perception and flow will enable users to feel satisfied with human-computer interaction. Hirschman & Holbrook (1982) pointed out that a positive consumption experience in an entertainment environment will lead to a high level of customer commitment and repurchase intention.

Scholars from all over the world have observed that perceived risk hinders consumers' purchasing intentions and behavior in their purchase decisions. The current consumer's low willingness to purchase new energy vehicles has also been attributed to a short cruising range, immature technology, and imperfect infrastructure.

Environmental values play a significant role in guiding consumers toward green consumption, a behavior that protects the environment. Due to the green and environmental values of new energy vehicles, consumers are generally more inclined to purchase new energy vehicles.

Intention is the most critical factor in predicting consumer behavior, and Venkatesh et al. found that behavioral intent has a significant impact on usage behavior.

2. Research Hypotheses

Therefore, this paper proposes the following assumptions:

H1: Perceived value has a significant positive impact on the purchase intention of new energy vehicles.

H2: Perceived entertainment has a significant positive impact on the purchase intention of new energy vehicles.

H3: Perceived risk has a significant negative impact on the willingness to purchase new energy vehicles.

H4: Environmental values have a significant positive impact on the purchase intention of new energy vehicles.

H5: Purchase intention has a significant positive impact on the purchase behavior of new energy vehicles.

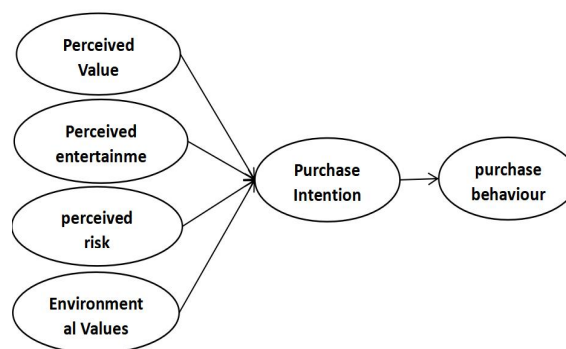


Fig. 1. research model

III. Empirical Analysis

1. Reliability analysis and validity analysis

Cronbach's α coefficient is directly proportional to the reliability of the measurement content, that is, the larger the α coefficient, the greater the reliability of the measurement content. Through SPSS23.0 analysis of the reliability of each variable, the Cronbach's α coefficient value of all variables is above 0.7, it can be judged that the internal consistency of each item exists and has good stability, which is fully in line with the scope of the reliability measurement of this research.

KMO and Bartlett test were performed by SPSS23.0, the results showed that the KMO value was 0.864, and the result of Bartlett sphere test was significant at the level of $P=0.000$, indicating that it is suitable for principal component analysis. The loading coefficients all exceed 0.7, indicating that the scale has good construct validity, so it can be judged that the overall validity of the scale is good.

2. Hypothesis testing

The variables and assumptions of this study refer to relatively mature scales and scientific research achievements at home and abroad, so this paper needs to carry out confirmatory factor analysis. Through AMOS 23.0 software operation, the calculated values of 6 indicators are all within the range of the fitting standard. It shows that the model has a good degree of fit with the sample data, and the model can effectively explain the user's travel behavior.

Table 1. Fit metrics

items	CMIN /DF	NFI	TLI	CFI	RMS EA	GFI	AGFI
ideal value	>1 <3	>0.9	>0.9	>0.9	<0.08	>0.8	>0.8
	2.726	0.940	0.953	0.961	0.053	0.937	0.917

Structural equation model analysis was performed using AMOS 23.0 software to verify the proposed research hypotheses. After analyzing the sample data with the maximum likelihood estimation method (ML), the fitting index of the model is obtained, and the standardized regression coefficient (path coefficient) and significance of each path are calculated. The parameter estimation results of its structural equation model are shown in Fig.

The AMOS software can be used to analyze the significance of the paths. According to the path test results, each path has passed the test, and the path has a significant impact.

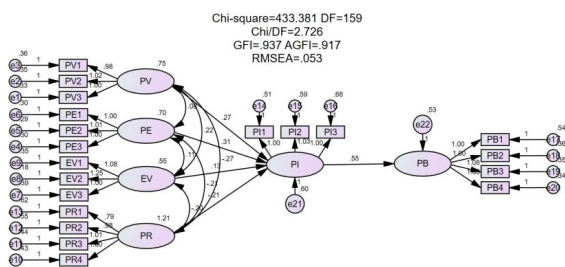


Fig. 2. structural equation model

Table 2. Structural Equation-AMOS Model Path Analysis Results

			Estimate	S.E.	C.R.	P
PI	<---	PE	0.313	0.05	6.282	***
PI	<---	PV	0.27	0.051	5.273	***
PI	<---	EV	0.127	0.058	2.2	*
PI	<---	PR	-0.215	0.039	-5.553	***
PB	<---	PI	0.552	0.046	12.014	***

IV. Conclusions

1. Analysis of research results

In this paper, we combine BRA theory and VAM theory and introduce altruistic environmental values into a new energy vehicle purchase intention model. Perceived value and perceived entertainment have a significant positive impact on the purchase intention of new energy vehicles. Perceived risk has a significant negative impact on new energy vehicle purchase intentions. Environmental values also have an impact on new energy vehicles. Furthermore, purchase intention has a significant impact on purchase behavior.

2. Discussion and the lack of research

The result of the study indicates that new energy companies should specifically subdivide and screen consumers, design different publicity methods for different target groups, adjust marketing strategies to meet consumer needs, improve consumers' perception of value and entertainment, and reduce their perceived risk. In addition, enterprises should advertise the environmental attributes of new energy vehicles to consumers with high environmental awareness, as well as enhance and improve publicity about environmental protection in order to enhance consumers' awareness of environmental issues, in order to enhance their willingness to adopt green lifestyles.

There are some shortcomings in this study. Firstly, this study is targeted at all consumers, and does not examine the needs of consumers who have never used or witnessed new energy vehicles. Secondly, the rationality of the selection and division of variables and dimensions should also be improved. Lastly, this study does not examine the impact of demographic variables (gender, age, occupation) on perceived gains, losses, values, and intentions of the users.

REFERENCES

- [1] De Medeiros, J. F., Ribeiro, J. L. D., & Cortimiglia, M. N.(2016). Influence of perceived value on purchasing decisions of green products in Brazil. *Journal of Cleaner Production*, 110, 158-169.
- [2] Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research. *Philosophy and Rhetoric*, 10(2).
- [3] Peter, J. P., & Ryan, M. J. (1976). An investigation of perceived risk at the brand level. *Journal of marketing research*, 13(2), 184-188.
- [4] Venkatesh, V., Davis, G. B., Davis, F. D., & Morris, M. G.(2003). User acceptance of information technology: Toward a unified view [J] . *MISQuarterly*, 27:425-478
- [5] Fan Lan. (2013). A Study on the Influencing Factors of WeChat Users' Willingness to Use Continuously. *Modern Commerce and Industry*, 25(20), 88-90.
- [6] Liu Xueyuan, & Sun Min.(2015). Research on my country's New Energy Vehicle Industry Innovation and Development Countermeasures—Based on a Questionnaire Survey of China, Germany, Japan, South Korea and the United States. *Science and Technology Progress and Countermeasures*, 32(21), 77-83.

- [7] Sheng Guanghua, Yue Beibei, & Ge Wanda (2020). Chained Multiple Intermediary Model of Chinese Residents' Green Consumption Behavior Driven by Environmental Values [J], Quantitative Economic Research, 1, 101-118.
- [8] Zhu Jianrong, Zhou Yanyan, Zhang Yuan, & Liu Fei (2019). "Research on the Relationship between Environmental Values and Ecological Consumption Behavior—Adjusted by Consumers' Perceived Effectiveness" [J], Business Economics Research, 3, 39- 42.
- [9] Zhang Yingyu, Zhang Mengjia, Wang Qiang, Ren Ying, Ma Yangguang, Ma Shuang, & Shi Zhongguo.(2015). A study on the purchase intention of fresh agricultural products under the O2O model based on the perceived benefit-perceived risk framework. China Soft Science, 6, 128-138 .