

# Research on the Influence of Intelligent System Safety of New Energy Vehicles on Consumers' Willingness to Use——Taking Guiyang, Guizhou Province as an Example

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**Abstract:** With the increasingly prominent environmental pollution and energy crisis, the country pays more and more attention to the development of energy-saving, environmental protection and safe new energy vehicles. New energy vehicles have always been regarded as the future development trend of the automotive field. At present, the core technology of China's domestic new energy vehicles lags far behind that of foreign countries, and the sales volume accounts for about half of the global sales volume of new energy vehicles, and the market size has ranked first in the world. But compared with traditional cars, new energy vehicles account for less than 6% of the market share. Among them, the safety problem is an important factor affecting consumers to purchase and use. China is vigorously developing new energy vehicles, attaches great importance to the production of new energy vehicles at the same time, but also need to strengthen the attention to the safety of new energy vehicles. Therefore, it is very urgent to explore what factors restrict consumers to continue to use new energy vehicles.

**Keywords:** New Energy Vehicles; Intelligent System; The Willingness to Continuous Use; Safety

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## 1. Background

New energy vehicles have become the mainstream of the development of China's automobile industry. New energy vehicles have always been regarded as the future development trend of the automotive field, but China is vigorously developing new energy vehicles, attaches great importance to the production of new energy vehicles at the same time, but also need to strengthen the attention to the safety of new energy vehicles. As early as 2013, the media have reported the news of intelligent system failure accident when the cumulative driving process of new energy vehicles reached 113 million miles. However, because the frequency of this accident was far lower than that of system failure accident of traditional cars, people did not pay corresponding attention at that time. In January 2018, a fire caused by the failure of new energy vehicles occurred in Chongqing, China. According to the investigation, the new energy vehicles were not in the charging state, nor did there appear any collision, and the intelligent system suddenly failed. Just two months later, the intelligent system of new energy vehicles failed in the United States, when the vehicle hit the barrier and caused a fire. A few days later, another part of the United States had another intelligent system failure accident of new energy vehicles, and the fire situation was also a collision fire. The frequent occurrence of new energy vehicle fire accidents also exposed the safety problems in the intelligent system that can not be ignored. Guiyang, Guizhou Province is one of the regions to accelerate the development of new energy, with the number of new energy vehicles reaching 500,000. The proportion of electric buses, cruising taxis, shared cars and driving tests reached 60 percent. The proportion of electric vehicles in the public sector has reached 60 percent. The safety of new energy vehicles is one of the most concerned issues that consumers care about, and it is also the foundation of the whole industry chain of new energy vehicles. The safety of the intelligent system of new energy vehicles has a great impact on consumers' willingness to use

it.

## 2. Research objectives

Analysis of the influencing factors of the intelligent system safety of new energy vehicles on consumers' continuous willingness to use them.

Explore the influence mechanism between several groups of factors.

According to the statistical analysis results, compare the importance of each factor, and formulate targeted optimization suggestions to improve the safety of the intelligent system of new energy vehicles, so as to provide great reference opinions for promoting the continuous willingness of consumers to use new energy vehicles.

## 3. Range of study

### 3.1 Significance and value

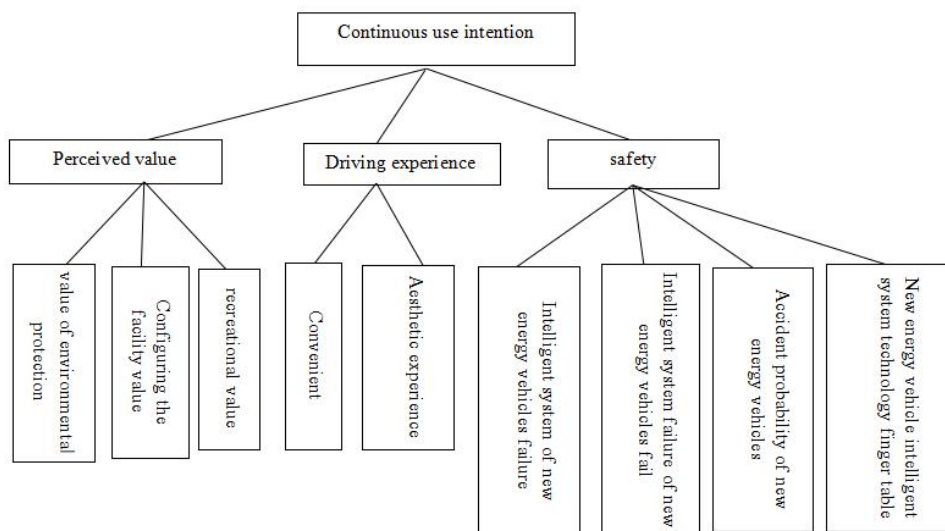
In terms of theory. This study on the basis of classic literature at home and abroad, combined with the perceived value theory, demand level theory perspective, the analysis of the intelligent system safety of consumers continue to use will influence mechanism, build a can fully reveal the new energy vehicle intelligent system safety of consumers continue to use will influence mechanism model, help to enrich the perceived value theory, demand theory of related literature, enrich and enrich the existing perceived value theory, hierarchy of demand theory.

In practical terms. This study clarifies the influence mechanism of the safety of the intelligent system of new energy vehicles on consumers' willingness to use, so that new energy vehicles can adopt corresponding safety technology strategies and service strategies according to the consumers' influence mechanism to improve consumers' willingness to use. It will also help to improve the safety of the intelligent system of the new energy vehicles, and help the new energy vehicles to obtain good technical indicators and reputation in terms of the intelligent system safety, which has certain practical value.

### 3.2 Regional demographic characteristics of the study

The population sample studied in this paper is from Guiyang city, Guizhou Province, mainly for consumers of new energy vehicles.

## 4. The conceptual framework of the study



## 5. Theoretical principle

Xie Xiaoling (2021) proposed that four factors, including environmental value, facility value, sales price and perceived value of entertainment value, have a significant impact on users' willingness to continue to use. Xu Guowei (2021) combined with customer experience, innovation diffusion, perceived risk theory, with marketing stimuli as a leading variable, respectively with cognitive and emotional reaction as intermediary variable, reaction as a result variable, respectively from the cognitive dimension and emotional response dimension build the driving experience on the influence of new energy car purchase intention mechanism model. Zhang LAN et al. (2017) found that the perceived strength, brand awareness and perceived quality of new energy vehicles had a positive and significant impact on the willingness of megacities residents to continue to use pure electric vehicles.

### 6. Correlation studies

Rafia Afroz (2015) believes that individualism and egotism values are above environmental awareness in purchase decisions. Erdem C et al. (2020) found through the survey that the motivation of consumers' continuous use of new energy vehicles can be attributed to psychological self-suggestion and the display of ecological values. Values can influence the choice of consumers, and the consumption concept can play a decisive factor when buying.

### Conclusion

In the initial stage of market development, it is inevitable that new energy vehicles still have immature technology. In the face of this core problem, it not only needs the active support of the government, but also requires enterprises to actively carry out technology research and development. At present, traditional cars are still the mainstream products of the automobile market. As a new product, new energy vehicles will inevitably make consumers think that there are still a lot of imperfect technologies. Such subjective judgment is not conducive to consumers to further understand new energy vehicles. Therefore, new energy automobile enterprises should fully recognize the market form and maintain objective development goals. On the one hand, they should actively provide objective and authoritative response to the negative voices in the market, set up a public relations department and actively guide public opinion to the healthy direction; on the other hand, they should get out from the current behavior of attracting public attention and seeking government policy subsidies, constantly improve the core competitiveness of the R & D department, and strive to break through the current technical bottleneck, and focus the enterprise on the products. Only when the product can better withstand the test of the market, can it really win the favor of consumers.

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