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Research on the Influence Path of Consumers' Purchase Intention of New Energy Vehicles Under Exclusive Insurance Policy

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Abstract— *The development of new energy vehicle industry is an important measure to realize China's "promoting green development" strategy. Using the theory of planned behavior and the theory of value belief norm, this paper establishes a theoretical model to analyze the impact path of the exclusive insurance policy of new energy vehicles on consumers' purchase intention. 317 valid sample data were collected through the questionnaire survey in different cities across the country, and the data were analyzed by correlation regression and structural equation. The results show that: ① "consumers' attitude towards insurance policy" has an indirect impact on consumers' purchase intention mainly through individual attitude, perceived behavior and subjective norms, and its path coefficients are 0.544, 0.581 and 0.721 respectively. ② Environmental awareness has an indirect impact on consumers' purchase intention through individual attitude, perceived behavior and subjective norms, and its path coefficients are 0.459, 0.265 and 0.396 respectively. ③ The path coefficient of subjective norms for consumers to buy new energy vehicles is 0.324, indicating that it plays a direct and important role in purchase intention. The greater the social pressure perceived by potential consumers, the more it can promote their purchase intention. Based on this conclusion, this paper proposes that the government should expand the popularization and interpretation of new energy vehicle insurance policy, pay attention to the publicity of environmental protection value of new energy vehicles, strengthen the positive guidance of the use of new energy vehicles, and eliminate consumers' concerns about the purchase of new energy vehicles.*

Keywords— *New energy vehicles; Insurance policy; Purchase intention; Theory of planned behavior; environmental consciousness.*

I. INTRODUCTION

1 Research background and significance

With the rapid development of economy, environmental problems have become the focus of attention of all countries. Global warming, ozone layer destruction and other problems are threatening human survival and development. As an important factor of environmental problems, the tail gas emitted by cars, including carbon monoxide, carbon dioxide, hydrocarbons, nitrogen oxides and so on, has caused serious pollution to the atmosphere. The total emission of pollutants from motor vehicles has reached 15.93 million tons [1], which is a staggering figure. Reducing automobile exhaust emission is one of the key factors to alleviate environmental problems. New energy vehicles fully meet the current emission reduction needs of the country because of their characteristics of less pollution, more environmental protection and energy saving. Developing energy-saving and environment-friendly new energy vehicles has become an urgent task for the automotive industry [2].

The 19th national congress put forward strategies such as "promoting green development" to help the development of China's new energy vehicle industry. China attaches great importance to the new energy vehicle industry. The state has invested a lot of funds to actively promote the development of charging infrastructure, drive system, battery and other projects, promote the development and improvement of the new energy vehicle industry chain, and promote the development and progress of the new energy vehicle industry. According to the statistics of the Ministry of public security, by the end of 2021, the number of new energy vehicles in China had reached 7.84 million. The sales volume of new energy vehicles in China has increased from 18000 in 2013 to 3.52 million in 2021, and its growth rate is obvious to all. Although the sales volume of new energy vehicles is in the stage of continuous growth, the current sales market share is still only about 14%, and there is still a lot of room for development. The development of new energy vehicles not only depends on its own high and new technology, but also benefits from the guidance and support of government promotion policies to a great extent. For a long time, the government has launched a number of financial subsidies, tax relief and right of way policies to promote the development of new energy vehicle industry. However, after the continuous "decline" of subsidies in 2016, the production and sales of new energy vehicles fluctuated sharply, which fully shows that consumers rely heavily on the preferential policies of the government.

On December 14, 2021, the China Insurance Industry Association issued the exclusive provisions for commercial insurance of new energy vehicles (Trial). The exclusive and perfect insurance policy provides more comprehensive protection for consumers. However, the large increase in insurance costs has led to constant complaints from some consumers. Will the exclusive insurance policy have an impact on the purchase intention of consumers of new energy vehicles? What impact will the change of consumers' purchase intention have on China's new energy vehicle industry? In order to better understand consumers' purchase demand and promote the development of new energy vehicles, this paper makes an in-depth study on the impact of the newly launched exclusive insurance clauses on consumers' purchase intention.

2 Research status at home and abroad

(1) Research on Influencing Factors of consumers' purchase intention

The promotion of productivity and economic development need consumption as a driving engine. Studying the influencing factors of consumers' purchase intention can more clearly understand how to promote consumption. Existing research shows that the influencing factors of consumers' purchase intention of new energy vehicles mainly focus on the performance of new energy vehicles, consumers' awareness of environmental protection and government policies.

In terms of the performance of new energy vehicles, safety [3] and battery life [4] are the main factors affecting consumers' purchase of new energy vehicles. Poor battery technology and insufficient electric energy reserve capacity directly affect the driving range and driving 2 time. Yu Jing found that the respondents are most concerned about the driving range of new energy vehicles, followed by safety [5]. Zheng Xiaoxue et al. Considered the current technical limitations, the new energy vehicles have problems such as insufficient endurance capacity and unreasonable design of fast charging station. In reality, consumers' purchase intention of new energy vehicles has not been transformed into actual purchase behavior [6]. Chen Kai and others believe that when purchasing new energy vehicles, consumers will worry about the potential safety hazards of batteries and pose a threat to personal safety [7]. Consumers' preferences for the attributes of new energy vehicles are heterogeneous. Affected by individual characteristics, men, young people and high-income respondents are more sensitive to mileage; High income earners are also more sensitive to charging time; Women, the elderly and highly educated respondents are more sensitive to carbon emissions [8].

With the government and the public constantly calling for the construction of an environment-friendly society, consumers' awareness of environmental protection is increasing. Even if they need to bear part of the premium expenditure, consumers will still buy environmental protection products [9]. The green attribute of new energy vehicles is very important to consumers' purchase intention [10]. However, some scholars believe that environmental awareness has little impact on consumers' purchase of new energy vehicles [11]. Ye Nan and others believe that although the public's acceptance of new energy vehicles is generally high, environmental awareness has little impact on consumers' willingness to buy new energy vehicles compared with price and quality factors [12].

The high depreciation rate and high purchase price of electric vehicles exceed the cost of fuel saving, making electric vehicles lack market competitiveness without policy incentives or government subsidies[13,14]. In areas supported by financial subsidy policies, consumers are often more willing to buy new energy vehicles[15]. Tax cuts, direct subsidies and right of way policies are all key factors to promote consumers to buy new energy vehicles[16]. Based on the theory of planned behavior, Wang Chao and others found that compared with consumers' environmental awareness, policy attitude has a more significant impact on consumers' purchase of new energy vehicles. Consumers' policy attitude towards new energy vehicles is an important indicator to measure their willingness to buy vehicles[17].

In terms of the analysis of the influencing factors of consumers' purchase intention, the existing research mainly adopts technology acceptance theory, planned behavior theory, sor theory, etc., and mainly focuses on the comprehensive influencing factors of new energy vehicle purchase intention or behavior, including consumers' attitude, subjective norms, perceived behavior, perceived factors, technical factors, etc. Based on sor theory, Li Chuang et al. Obtained that the consumption promotion policy has the greatest impact on the purchase intention of potential consumers, and the charging policy has the least impact[18]. However, most scholars use the theory of planned behavior to study consumers' willingness to buy new energy vehicles. For example, Wang Yuehui and Wang Qing concluded through the theory of planned behavior that consumers' purchase attitude towards new energy vehicles is positively correlated with their purchase intention[19]. Based on the theory of planned behavior, Wang Chao and others found that compared with consumers' environmental awareness, the effect of policy attitude to predict consumers' purchase of new energy vehicles is more significant. Consumers' policy attitude towards new energy vehicles is an important indicator to measure their willingness to buy vehicles[17].

(2) Research on the impact of government policies on consumers' purchase intention .

Due to its advantages in energy conservation and emission reduction, new energy vehicles have been favored by many countries. Governments of various countries have adopted a variety of policy tools to promote the development of new energy vehicle industry. Financial subsidies are an indispensable means for governments to encourage consumers to buy new energy vehicles. The Chinese government followed the foreign policy idea of reducing vehicle purchase costs with cash subsidies, launched the Interim Measures for the administration of financial subsidies for energy conservation and energy in 2009, and launched the policy pilot work of subsidies for the purchase of new energy vehicles in five cities such as Shanghai in June 2010. Three government promotion policies, especially financial subsidies, have become the main reasons affecting consumers' purchase[20]. Subsidies for new energy vehicle industry have played a positive role in expanding the market and accelerating industrial development[21].

The government's financial subsidies reduce the financial pressure of consumers[22], and the degree of subsidies directly affects consumers' willingness to buy new energy vehicles[18]. The greater the degree of subsidies, the higher the sales of new energy vehicles[23]. Through the consumer decision-making model, Li Shening and others also believe that the sales volume of new energy vehicles will increase after the financial subsidy. The output and sales volume of new energy vehicles with tax preference are higher than those without tax preference, and the sales growth of new energy vehicles depends on the subsidy scale after the subsidy[24]. Alex et al. Found that the decrease of government subsidy policy will reduce the sales of new energy vehicles at the same time through the investigation and Research on Swiss consumers[25].

Gallagher believes that compared with other support policies, tax subsidies can better promote consumers' purchase of electric vehicles[26]. Ambarish Chandra et al. Have studied the tax policy in Canada and concluded that the issuance of tax policy has significantly increased the sales of new energy vehicles, and the tax preference per 1000 US dollars can promote the sales of new energy vehicles by 31%[27]. With the decline of subsidies in fiscal and tax policies, the impact of non subsidy policies on consumers' purchase intention is becoming more and more important. At present, the role of "right of way priority" policy is lower than that of "charging guarantee" policy, and the role of "right of way priority" policy is stronger in cities with higher traffic pressure[28]. Anna bergek et al. Also found a positive correlation between electric vehicle sales and charging discounts and infrastructure construction subsidies[29].

On the contrary, some scholars believe that the "rapid tax reduction" and "tax exemption" policies are not conducive to the rapid development of consumers[30], but they do not hold the view that the "single tax reduction" and "tax exemption" policies are not conducive to the development of new energy markets[31]. Li Xiaohua and Xu Shuai believe that the financial subsidy policy has a more obvious subsidy effect on consumer groups with lower annual family income, better understanding of preferential policies and stronger environmental awareness[32]. Knowledge consumers have a weak perception of the price of new energy vehicles, resulting in the limited incentive effect of tax incentives, subsidies and other policies[33]. Most people believe that effective policies can guide consumers to green consumption, but the direct impact effect is not very obvious[34].

Academic circles mostly study consumers' willingness to buy new energy vehicles from the perspective of fiscal and tax policies, and few scholars from the perspective of insurance policies. This paper closely follows the pace of the times and studies consumers' willingness to buy based on the exclusive provisions on new energy vehicles issued in December 2021, so as to further understand consumers' psychological activities, so as to better promote the improvement of policies and accelerate the economic development of new energy vehicle industry.

II. Theoretical Basis

1 Planned behavior theory

The theory of planned behavior (TPB) was put forward by icek Ajzen in 1985. It is used to explain the personal intention and behavior in the decision-making process. It is the successor of the theory of rational behavior (TRA). Rational behavior theory holds that attitude and subjective norms are the main factors affecting individual behavior intention[35]. Behavioral intention is the decisive factor that affects the actual behavior. The stronger consumers' willingness to buy, the more likely they are to buy. Attitude is the overall evaluation of an individual's participation in a specific behavior, while subjective norms are the perception of social pressure. However, in reality 4, behavior intention and actual behavior do not completely depend on attitude and subjective norms. For example, when a consumer wants to buy a product, the actual purchase behavior depends not only on the consumer's attitude towards the product and the influence of important people around, but also on the difficulty of the consumer to buy the product. Therefore, in order to improve the explanatory power of rational behavior theory, Ajzen introduced perceptual behavior control variables. Nowadays, the theory of planned behavior has been widely used in the study of consumer behavior, with a large number of theoretical results, as shown in Figure 2-1.

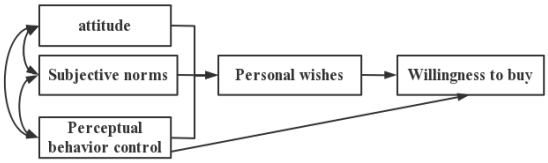

Figure 2-1. Theoretical model of planned behavior

However, there are obvious deficiencies in the impact of planned behavior theory on environmental behavior values, and there is a lack of prediction of repeated behavior. Stern put forward the value belief norm theory (VBN) in 1999, which integrates the value theory and the new ecological paradigm theory into the normative activation theory model[36]. Value belief norm theory has an impact on individual Pro environmental behavior through the transmission of value orientation, belief and individual norms. The theory emphasizes individual moral responsibility for the environment and adjusts individual behavior through psychological intervention. Lane and Potter put forward the method of integrating planned behavior theory with value belief norm theory, which improves the ability to explain behavior intention[37]. Planned behavior theory and value belief norm theory are the theoretical basis for measuring the influencing factors of Pro environmental behavior intention. Therefore, we use lane and Potter's theoretical research for reference, combined with planned behavior theory and value belief norm theory as the research theory of this paper.

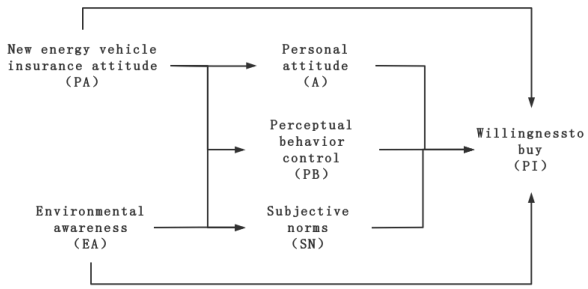

Figure 2-2. Theoretical model of planned behavior of new energy vehicle insurance

2022, as the first year of the new implementation of the exclusive provisions for new energy vehicles and the last year of the purchase subsidy for new energy vehicles, is a key adjustment period for the further development of the new energy vehicle industry. The policy adjustment has a certain impact on the expected users and onlookers. The research on the impact of exclusive insurance policy of new energy vehicles on consumers' purchase 5 intention in this paper is in good agreement with the idea and model of planned behavior theory.

Therefore, this paper establishes a theoretical model based on the planned behavior theory and the value belief norm theory, as shown in Figure 2-2, to explore the impact of the exclusive insurance policy of new energy vehicles on the stage in the last subsidy year of 2022, so as to provide enlightenment for the purchase intention of consumers of new energy vehicles, guide consumers from the micro level and pay attention to the way of low-carbon and environmental protection travel.

2 Hypothesis

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(1) Behavior and attitude (A)

Behavioral attitude is the reflection of consumers' preference for specific things or behaviors. Whether consumers have a good impression on new energy vehicles will have a certain impact on their willingness to buy new energy vehicles. If consumers are optimistic about the prospect of new energy vehicles, they have a good impression on them and have a higher willingness to buy new energy vehicles. Therefore, assumptions are put forward.

H1: consumers' individual attitude towards new energy vehicles is positively correlated with purchase intention.

(2) Subjective norm (SN)

Subjective norm refers to the influence of the current social situation on individuals when they perform a specific behavior in decision-making. It reflects the influence of groups on individual behavior decision-making. The Russian Ukrainian war has triggered a chain reaction of rising international oil prices and China's continuous efforts to achieve the "double carbon" goal in recent years, which has accelerated the comprehensive promotion of new energy vehicles in China. The publicity of new energy vehicles by the government and businesses, as well as the appeal of social environmentalists, have a certain impact on the subjective norms of consumers. Therefore, this paper puts forward assumptions.

H2: there is a positive correlation between consumers' subjective norms of new energy vehicles and purchase intention.

(3) Perceptual behavior control (PB)

Perceptual behavior control refers to the individual's perception of the difficulty of implementing a certain behavior. It reflects the individual's perception of the factors affecting the executive behavior. The more consumers know about what they know, the stronger their personal ability and the stronger their ability to control things. Therefore, this paper puts forward assumptions.

H3: consumers' perceived behavior control of new energy vehicles is positively correlated with purchase intention.

(4) Environmental awareness (EA)

Environmental awareness is an important factor in predicting personal Pro environmental behavior, reflecting consumers' awareness of environmental protection and acceptance of new energy vehicles. In the context of carbon neutralization, the concept of environmental protection and energy conservation has been deeply rooted in the hearts of the people, and the level of social environmental awareness has been continuously improved. Consumers' environmental awareness is also gradually strengthened, and they will be more willing to bear part of the premium of new energy vehicles. Therefore, this paper puts forward assumptions.

H4: consumers' environmental awareness is positively correlated with their individual attitude towards new energy vehicles.

H5: consumers' environmental awareness is positively related to their subjective norms for new energy vehicles.

H6: consumers' environmental awareness is positively correlated with their perceived behavior control of new energy vehicles.

H7: consumers' environmental awareness is positively correlated with their purchase intention of new energy vehicles.

(5) Exclusive insurance policy for new energy vehicles (PA)

With the maturity of the new energy market and the gradual improvement of the infrastructure of new energy vehicles, the share of new energy vehicle 6 market has increased rapidly. Due to the differences between new energy vehicles and traditional vehicles, the problems are becoming more and more obvious. Therefore, the exclusive insurance of new energy vehicles appears. More accurate and perfect new energy vehicle insurance makes the spectators of new energy vehicles have a better view of their safety and security. Therefore, this paper puts forward assumptions.

H8: consumers' attitude towards the exclusive insurance policy of new energy vehicles is positively correlated with their individual attitude towards new energy vehicles.

H9: consumers' attitude towards the exclusive insurance policy for new energy vehicles is positively correlated with their subjective norms for new energy vehicles.

H10: consumers' attitude towards the exclusive insurance policy of new energy vehicles is positively correlated with their perceived behavior control of new energy vehicles.

H11: consumers' attitude towards the exclusive insurance policy for new energy vehicles is positively correlated with their purchase intention.

III. Development Status of New Energy Vehicle Industry

1 Concept of new energy vehicles

New energy vehicles refer to vehicles that integrate advanced technology and vehicles as energy to form advanced technology, vehicle control and traffic management with new technology and new structure. Among them, new energy vehicles include four types, including hybrid electric vehicles, pure electric vehicles, fuel cell electric vehicles and other new energy vehicles. Different from conventional energy, vehicle fuels refer to fuels other than gasoline and diesel.

2 Development status of new energy vehicle market

(1) Sales volume of new energy vehicles

From 2017 to 2020, China's auto sales continued to decline and did not recover until 2021. The sales volume of new energy vehicles basically increased steadily from 2017 to 2020. Although it decreased slightly in 2019, the sales volume of new energy vehicles increased significantly in 2021, as shown in Figure 3-1. On the whole, although the proportion of new energy vehicles in the whole vehicle sales is very small, and the market share of new energy vehicle sales in 2021 is only about

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14%, it can be seen from the continuous growth trend of new energy vehicles that there is still a lot of development space in the new energy vehicle market.

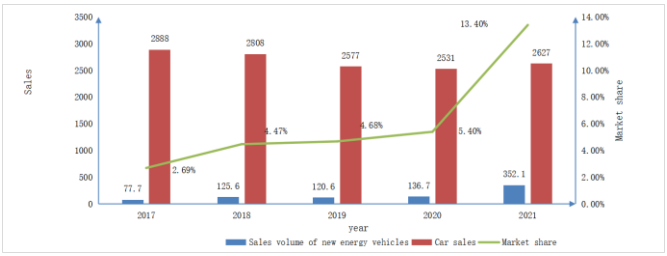

Figure 3-1. sales volume of new energy vehicles and vehicles in 2017-2021

(2) Ownership of new energy vehicles

In the past five years, the number of new energy vehicles in China has increased steadily, from 1.53 million in 2017 to 7.84 million in 2021, an increase of 412.41% month on month, realizing a qualitative leap, as shown in Figure 3-2. New energy vehicles are gradually being accepted and loved by the masses.

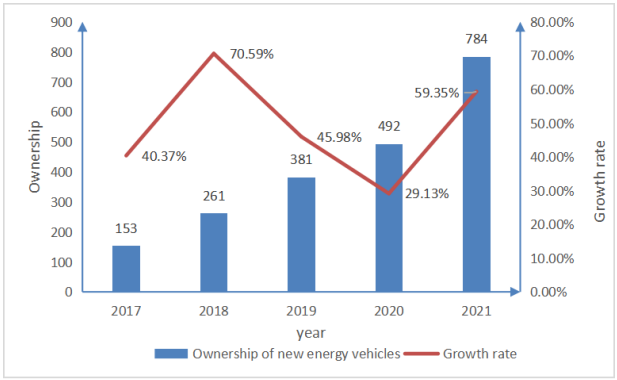

Figure 3-2. ownership and growth rate of new energy vehicles

3 Evolution of new energy vehicle insurance policy

In 2014, the China Insurance Industry Association issued the model regulations on commercial motor vehicle insurance, which is divided into main insurance and additional insurance, and defines the compensation for motor vehicle damage during the insurance period. In 2020, the China Insurance Industry Association issued a new model regulation on commercial motor vehicle insurance, which has undergone major changes compared with the 2014 version: ① increased coverage, ② reduced liability exemption, ③ added a large number of additional insurance products, and ④ added many service scenarios for consumers' daily use of vehicles. The revised regulations make supplementary provisions on value-added insurance, but do not distinguish the insurance coverage of new energy vehicles from traditional diesel locomotives, and there are no exclusive insurance regulations for the characteristics of new energy vehicles.

On December 14, 2021, the China Insurance Industry Association issued the exclusive provisions of the China Insurance Industry Association for commercial insurance of new energy vehicles (Trial). Compared with the traditional automobile insurance, the exclusive insurance of new energy vehicles has undergone great changes, which can be divided into the following four points:

①the models targeted by the new energy insurance only include plug-in hybrid (including add-on program) vehicles, pure electric vehicles and fuel cell vehicles, excluding motorcycles Tractors, special vehicles.

②Clearly include the "three electricity" system of new energy into the guarantee, including battery, electromechanical and electronic control. The "three electricity" system and factory equipment are the insurance liability for vehicle damage, and the insurance company is responsible for paying compensation. In the three main insurances of vehicle damage insurance, third party liability insurance and on-board personnel liability insurance, accidents (including fire and combustion) are clearly defined.

③Newly added exclusive additional insurance for new energy vehicles, including external power grid failure loss insurance, self use charging pile loss insurance, self use charging pile liability insurance, intelligent driving assistance software loss compensation insurance, fire accident limit doubling insurance, and removed the engine wading insurance of new energy vehicles.

④Ensure more use scenarios, and set up to cover the use of driving, parking, charging and operation scenarios. The losses during charging shall be included in the scope of compensation. See table 3-1 for details.

TABLE 3-1. commercial insurance of new energy vehicles

Main insurance	Additional insurance
New energy vehicle loss insurance	External power grid fault loss insurance (newly added)
Liability insurance for drivers and passengers of new energy vehicles	Loss insurance of self used electric pile (newly added)
New energy vehicle third party liability insurance	Self use charging pile liability insurance (newly added)
	Absolute franchise clause
	Wheel separate loss insurance
	Newly added equipment loss insurance
	Special terms of value-added services for new energy vehicles
	Car body scratch damage insurance
	Cost compensation insurance during repair
	On board cargo liability insurance
	Mental damage pension liability insurance
	Medical expense liability insurance other than medical insurance
	Legal holiday limit doubling insurance

Table 3-2 is a comparison of specific different terms and measures of motor vehicle insurance and new energy vehicle insurance. New energy vehicles have separate use scenarios and separate measures due to their characteristics, and the implementation of new terms is more conducive to dispel consumers' doubts. However, according to the benchmark pure risk premium table of commercial insurance for new energy vehicles (Trial) issued by the China Association of actuaries, the new energy vehicle models below 250000 yuan will only decline but not rise, and the models above 250000 yuan will rise partially, but not more than 3% as a whole. The rising insurance

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premium may lead to the situation of "applauding but not popular" of new energy vehicles. Therefore, this paper explores whether the introduction of this policy will have an impact on consumers' purchase intention according to the newly launched exclusive terms of new energy vehicle insurance.

TABLE 3-2. comparison between motor vehicle insurance and new energy vehicle insurance

Specific guarantee	motor insurance	New energy vehicle insurance
Vehicle damage insurance	If the direct loss of the insured motor vehicle caused by natural disasters and accidents does not belong to the scope of exemption from the insurer's liability, the insurer shall be liable for compensation in accordance with the provisions of this insurance contract. .	On the basis of motor vehicle damage insurance, the scope of compensation is increased (1) body; （2） Battery and energy storage system, motor and drive system; （3） All other ex factory equipment. Use includes driving, parking, charging and operation. (battery attenuation, no compensation for loss caused by external power grid failure during charging)
Third party liability insurance	In case of an accident, the insurer shall be liable for damages to a third party according to law, and the insurer shall be liable for compensation for the part exceeding the itemized compensation limit of the compulsory motor vehicle traffic accident liability insurance in accordance with the provisions of this insurance contract.	In case of accident (including fire and combustion), the insurer shall be liable for compensation to the third party according to law, and the insurer shall be liable for the part exceeding the sub item compensation limit of motor vehicle traffic accident liability compulsory insurance in accordance with the provisions of this insurance contract. Use includes driving, parking, charging and operation.
Liability insurance for on-board personnel	In case of any accident that causes personal injury or death to the personnel on board, the insurer shall be liable for compensation for the damage to the personnel on board according to law in accordance with the provisions of this insurance contract.	In case of any accident (including fire and combustion) that causes personal injury or death to the personnel on the vehicle, the insurer shall be liable for compensation for the damage to the personnel on the vehicle according to law in accordance with the provisions of this insurance contract. Use includes driving, parking, charging and operation.

IV. Research Design

1 Data sources and pre-survey

This questionnaire survey adopts the form of online survey. Before the formal distribution, this study collects 35 samples from the designed questionnaire for sample pre-test. The pre survey can further check the problems existing in the questionnaire, adjust and modify them, avoid problems in the formal survey and improve the quality of the questionnaire.

In order to ensure the reliability and effectiveness of the questionnaire, this paper uses SPSS software to test the reliability and validity of 35 pre-test questionnaires. Reliability test, variable cronbachs α The value of is 0.968 > 0.7, which indicates that the questionnaire data measure is reliable in reliability. In the validity test, the value of kmo is 0.767 > 0.7, indicating that the validity of the questionnaire is effective.

The survey was conducted in February 2022 for one month. In addition to personal basic information, there are 6 variables and 24 items in total. In this paper, the sample size is determined according to the rule of thumb n * 30 (n is the number of variables in the model). A total of 377 questionnaires are obtained. Since the object of this survey is potential consumers, excluding the people who already own new energy vehicles, the samples who already own new energy vehicles are excluded from the collected questionnaires. Finally, a total of 317 valid questionnaires were collected, and the effective questionnaire recovery rate was 84.08%.

In the survey sample, the proportion of men is 51.1% and the proportion of women is 48.9%. The sampling is relatively uniform, and the proportion of men is slightly higher than that of women, which is in line with the proportion of domestic drivers with more men than women. The proportion between the ages of 20-30 and 30-40 is as high as 76.3%. This age group has more purchasing power, and the frequency of use is higher and more persuasive than other age groups. Education is concentrated in undergraduate and junior college, accounting for 55.8%. 41.7% of the annual disposable income of the family is between 100000 and 200000 yuan, and 25.2% of the annual disposable income of the family is more than 200000 yuan, mostly among people with more purchasing power.

2 Reliability and validity analysis

（1）Reliability analysis

After data collection, first analyze the reliability of the overall variables. Reliability refers to the stability and reliability of the measurement problem, which is reflected by the relevance of the measurement problem under the same variable. The variable Cronbach's is usually used α To measure, and the variable Cronbach's α The greater the, the higher the reliability. It can be seen from Table 4-2 and table 4-3 that the reliability coefficient of the total amount table is 0.970 > 0.7, and the reliability coefficient of each variable is greater than 0.8, which shows that the questionnaire design is reasonable and the reliability of the data is high.

TABLE 4-1. basic attributes of samples

	Basic information	percentage		Basic information	percentage
Gender	male	51.1%	Age	Under 20	3.2%
	female	48.9%		Between the ages of 20 and 30	42.5%
Annual household disposable income	Less than 50000 yuan	14.2%		Between 30 and 40	33.8%
	RMB50000-100000	18.9%		Over 40	20.5%
	100000-200000 yuan	41.7%	education	Junior high school and below	3.5%
	More than 200000 yuan	25.2%		High school or technical secondary school	24.9%
Car ownership	No car	14.5%		Bachelor degree or junior college	55.8%
	Only gasoline cars	85.5%		Master degree or above	15.8%

TABLE 4-2. Reliability measurement

Cronbach's Alpha	Number of items
0.97	24

TABLE 4-3. Reliability test results

Variable name	Total number of samples	Number of items	Cronbach's α
Attitude towards policy	317	5	0.928
Individual attitude	317	4	0.916
Perceptual behavior	317	3	0.877
Subjective norms	317	4	0.922
environmental consciousness	317	4	0.904
Purchase intention	317	4	0.892

(2) Validity analysis

A scale must have both reliability and energy efficiency, and the final data will have analytical value. Validity refers to that the measurement problem can accurately and effectively measure the degree of variables to be measured. KMO is usually used to measure. The larger the KMO is, the more effective the data is. Table 4-4 shows that the total validity test result KMO ＞ 0.6 and sig ＜ 0.001, then the validity data of this group of data is of good quality and more effective.

TABLE 4-4. total validity test results

Kaiser Meyer Olkin measure of sampling adequacy	0.722
Bartlett's sphericity test	1054.553
Df	276
Sig	0.00

V. Empirical Analysis

1 Correlation Analysis

Correlation analysis is to explore the correlation between variables and prepare for the subsequent regression analysis. In this paper, SPSS software is used to conduct correlation analysis of questionnaire data, and Pearson coefficient is used to measure. This part tests the correlation between the dependent variable purchase intention and the independent variable's attitude towards policy, individual attitude, perceived behavior, subjective norms and environmental awareness. According to the correlation analysis of the five independent and dependent variables in Table 5-1, the Correlation coefficients of Person are all greater than 0, and the P values are all 0, which have passed the significance test of 0.01 (P <0.01).It is concluded that all the five independent variables have a significant positive correlation with the dependent variable.

TABLE 5-1. Correlation analysis

		PA	A	PB	SN	EA
PI	Pearson correlation	0.874**	0.887**	0.876**	0.890**	0.871**
	significance (bilateral)	0	0	0	0	0
	N	317	317	317	317	317

Note:**Represents a significant correlation at the 1% level (bilateral).

2 Regression Analysis

Regression analysis is mainly used to study whether there is a certain or approximate relationship between variables.This paper uses linear regression analysis to establish the theoretical model as follows:

$$Y=a+B_1PA+B_2A+B_3PB+B_4SN+B_5EA+\varepsilon$$

Where a represents constant Bi (I =1,2...,5) represents the corresponding coefficient of the variable, and ε is the error term. SPSS was used for multiple regression analysis, and the regression results were shown in Table 5-2.

According to the regression results, the buying intention of "consumers' attitude to insurance policy" increases by 0.186 units, the buying intention of "consumers' attitude to insurance policy" increases by 0.178 units, and the buying intention of "perceived behavior" increases by 0.150 units. When subjective norm increases by 1 unit, the purchasing intention increases by 0.252 units; when environmental consciousness increases by 1 unit, the purchasing intention increases by 0.205 units. All variables have passed the significance test, among which subjective norms have the greatest influence on purchase intention, while perceptual behavior has the least influence on purchase intention. It can be concluded from the above analysis and table that the model is significant on the whole.

TABLE 5-2. Regression analysis

Model	Nonstandardized coefficient	Normalization coefficient
a	0.074	
	(0.897)	
PA	0.186***	0.18***
	(3.238)	(3.238)
A	0.178***	0.179***
	(2.913)	(2.913)
PB	0.15***	0.16***
	(2.719)	(2.719)
SN	0.252***	0.255***
	(4.13)	(4.13)
EA	0.205***	0.202***
	(3.912)	(3.912)
Adjust R^2	0.857	

Note: *, ** and *** represent significant at 10%, 5% and 1% levels respectively; The values in parentheses are t values

3 Test of Model Fitness

Through regression analysis, it can be seen that each variable has an impact on consumers' purchase intention, but the specific impact path is not clear.In this paper, reliability and validity tests and confirmatory factor tests show that structural equation model can be used to analyze the specific impact path.AMOS was used to test the fitting degree of the initial model, and the results showed that CMIN/DF was 2.323<3;RMR was 0.065<0.08, indicating a good fitting degree between the model and data.In addition, the data values of NFI, RFI, IFI, TLI and CFI of the model are all greater than 0.9, indicating that the fitting effect is good and the model has a high fit. The test results of the model are shown in Table 5-3.

TABLE 5-3. Test results of model fitness

Statistical test index	standard	model	fitting
CMIN/DF	<3	2.323	good
RMR	<0.05	0.036	good
GFI	>0.9	0.867	The lower
NFI	>0.9	0.942	good
RFI	>0.9	0.933	good
IFI	>0.9	0.966	good
TLI	>0.9	0.961	good
CFI	>0.9	0.966	good
RMSEA	<0.08 (reasonable)	0.065	reasonable
	<0.05 (Very good)		

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4 Model Parameter Estimation

AMOS was used in this paper to conduct structural equation model analysis on the impact of exclusive terms of new energy vehicles on consumers' purchase of new energy vehicles. The analysis results are shown in Figure 5-1 and Table 5-4. The following conclusions can be drawn:

(1) Consumers' subjective norms for new energy vehicles have a significant direct impact on their purchase intention. The standardized path coefficient is 0.324, assuming that H2 is true. Consumer's own subjective norms for them to buy new energy vehicles have a direct role, the government launched a new energy cars exclusive insurance policy, shows that the government's emphasis on new energy automotive industry, consumers influenced by subjective norms, and the government policy to guide more willing to buy new energy vehicles, is helpful to promote the development of new energy automotive industry.

TABLE 5-4. Parameter estimation results of structural equation model

Assuming that	Normalized path coefficient	C.R.	P	conclusion
Attitude→PI	0.156	0.633	0.527	Does not support
SN→PI	0.324	2.81	0.005	support
PB→PI	0.18	1.056	0.291	Does not support
EA→Attitude	0.459	6.12	***	support
EA→SN	0.396	4.714	***	support
EA→PB	0.265	3.01	0.003	support
EA→PI	0.208	1.275	0.202	Does not support
PA→Attitude	0.544	7.107	***	support
PA→SN	0.581	6.737	***	support
PA→PB	0.721	7.727	***	support
PA→PI	0.122	0.501	0.616	Does not support

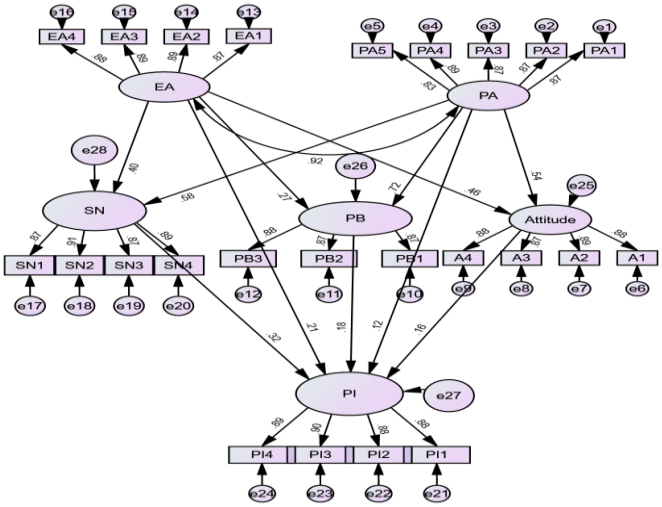

Figure 5-1. Model path and parameter estimation results

(2) "Consumers' attitude towards insurance policy" has significant influence on individual attitude, subjective norm and perceived behavior, and the correlation is positive. H8, H9 and H10 hypothesis are all valid, and the path coefficients are 0.544, 0.581 and 0.721 respectively, among which the influence on perceived behavior is the greatest. It shows that "consumers' attitude towards insurance policy" has an obvious indirect influence on consumers' purchase intention through influencing individual attitude, subjective norms and perceived behavior. When consumers show a positive attitude towards insurance policies, their subjective norms, perceived behavior and other aspects will tend to buy new energy vehicles.

(3) Environmental awareness has a significant impact on individual attitude, subjective norms and perceived behavior. Assuming that H4, H5 and H6 are all valid, the path coefficients are 0.459, 0.396 and 0.265, respectively. It shows that environmental awareness also has an indirect influence on consumers' purchase intention through influencing individual attitude, subjective norms and perceived behavior. But the environmental consciousness of indirect influence on consumer purchase intention, the path coefficient than "consumer attitudes towards insurance policy" indirect impact on consumer purchase intention to weaker, therefore, policy on consumer purchase intention is greater than the influence of the environmental consciousness of individual consumers, although the heightened environmental consciousness of consumers, However, consumers still pay more attention to government policies when buying new energy vehicles.

(4) Consumers' attitudes towards insurance policies, perceived behavior, environmental awareness and individual attitude have not passed the significance test, and the standardized path is 0.122, 0.180, 0.156 and 0.208, indicating that the assumptions H1, H3, H7 and H11 are not valid. The direct influence of these potential variables on purchase intention is weak. It can be seen that, compared with individual attitude and perceptual behavior, consumers pay more attention to subjective norms when buying new energy vehicles.

VI. Conclusions and Suggestions

1 Conclusion

In this paper, by applying the theory of planned behavior and value - belief - gauge theory, the combination of recycling of 317 valid questionnaires, from a consumer's attitude to the insurance policy, environmental awareness, individual attitude, subjective norm and perceived behavior of five aspects of content, research of new energy automobile exclusive insurance policy for potential consumers purchase intention of the influence of the path. The following conclusions are drawn:

(1) Subjective norms play a direct and important role in the purchase intention of potential consumers of new energy vehicles, while "consumers' attitude towards insurance policy", individual attitude, perceived behavior and environmental awareness have a weak impact on the purchase intention. From the regression equation, it can be concluded that perceived behavior control has the least impact on consumers' purchase intention. It can be seen that potential consumers of new energy vehicles still have some obstacles in the purchase of new energy vehicles, which may be caused by the higher price of new energy vehicles with the same configuration, incomplete supporting facilities of new energy vehicles and other reasons. There are also some obstacles in consumers' cognition of new energy vehicles, which may be caused by factors such as consumers' anxiety caused by the accident news reports of new energy vehicles and consumers' skepticism about the ever-

changing new energy technologies.
(2) The attitude of potential consumers of new energy vehicles towards insurance policy has an obvious indirect impact on consumers' purchase intention by affecting individual attitude, subjective norms and perceived behavior. The impact of policy on consumers' purchase intention is greater than consumers' personal environmental awareness. This means that the change of government policy still plays a leading role in the sales of new energy vehicles. Consumers pay more attention to the change of government policy on new energy vehicles in the process of watching new energy vehicles. Although the insurance policy of new energy vehicles subdivides the insurance of new energy vehicles more clearly, due to the current stage of new issuance and the low popularity of insurance policy publicity, it is found in the survey that even new energy vehicle owners rarely understand its main contents, so it is necessary to strengthen the publicity of insurance policy.
(3) Environmental awareness has a significant impact on individual attitude, perceived behavior and subjective norms. It can be seen that the improvement of environmental awareness and the development environment of new energy vehicles complement each other. Although the indirect impact of environmental awareness on purchase intention is significant, the results of structural equation model show that even if the social environmental awareness is improved, the impact of environmental awareness on consumers' purchase intention is not as high as expected, so the improvement of environmental awareness needs to be paid attention to.

2 Proposal

Based on the above conclusions, this paper puts forward the following policy suggestions:
(1) the government should strengthen the positive guidance on the performance and driving experience of new energy vehicles, and provide timely answers to consumers' doubts and puzzles, so as to eliminate consumers' distrust and concerns about new energy vehicles. In the context of "declining" subsidies, improve the convenience of new energy vehicles and stimulate consumers' purchase demand by improving supporting charging facilities and preferential policies for road rights. Let consumers clearly understand that the development prospect of new energy vehicles is bright. The behavior of buying new energy vehicles has become a kind of subjective norm that the State advocates the social wind direction and enhances consumers through social forces.
(2)The government and new energy vehicle enterprises should pay close attention to the publicity and popularization of new energy vehicle insurance policies, focusing on the protection of battery, spontaneous combustion and charging risks of new energy vehicles. Let potential new energy consumers further understand the exclusive insurance of new energy vehicles, deepen their understanding of new energy vehicles and their prospects, reduce purchase concerns, and strengthen consumer perception and behavior control.
(3) Cultivating and improving the environmental awareness of the whole society will help consumers buy green products. The government and new energy vehicle enterprises should increase the publicity of the environmental protection value of new energy vehicles, strengthen the publicity of social environmental protection awareness, strengthen the ecological awareness of citizens and pay attention to the ecological and environmental value, so as to enhance the environmental awareness and social responsibility of potential consumers.

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