A Study on the Impact of New Energy Vehicle Customer Satisfaction on Repurchase Intention: A Case Study of Consumers in Guangdong Province, China

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Abstracts
Amid escalating global environmental concerns, new energy vehicles (NEVs) have gained widespread policy support and market acceptance worldwide for their environmental benefits and energy efficiency. In Guangdong Province, China, the promotion and adoption of NEVs are in a phase of rapid growth. This study aims to explore how enhancing customer satisfaction with NEVs can increase their repurchase intentions, thus fostering healthy market development. The primary objectives include: 1) Investigating the impacts of product quality satisfaction and service satisfaction on repurchase intentions and their mechanisms; 2) Examining the effects of product quality satisfaction and service satisfaction on brand trust and their mechanisms; 3) Exploring the impact of brand trust on repurchase intentions and its mechanisms; 4) Analyzing the mediating role of brand trust between customer satisfaction and repurchase intentions. To achieve these objectives, a quantitative research method was employed, using a survey designed from established literature to randomly sample consumers of new energy vehicles in Guangdong Province. A total of 500 questionnaires were distributed, with 466 collected and 398 validated, resulting in an 85.41% effective response rate. Data were analyzed using a Structural Equation Modeling (SEM) approach to test the research hypotheses. The results indicate that both product quality satisfaction and service satisfaction significantly positively affect repurchase intentions. Brand trust plays a significant mediating role between product quality satisfaction, service satisfaction, and repurchase intentions. These findings provide practical guidance for NEV manufacturers on how to enhance consumer loyalty and stimulate repurchase behavior by improving product and service quality and strengthening brand trust. Overall, this study not only enriches the theoretical understanding of customer behavior in the NEV market but also offers empirical evidence and strategic recommendations for the industry to better meet consumer needs, promoting sustainable development of the NEV market in Guangdong and beyond.

Keywords: New Energy Vehicles, Customer Satisfaction, Repurchase Intentions, Brand Trust

1. Introduction

As global environmental problems intensify, new energy vehicles have received extensive policy support and market recognition due to their environmental protection and energy-saving advantages. In China, especially in Guangdong Province, the promotion and popularization of new energy vehicles is in a rapid rise. How to improve customer satisfaction with new energy vehicles and thus encourage customers to repurchase has become a key issue in the current market competition. Customer satisfaction is the core factor affecting consumer behavior.

Studies have shown that customer product quality satisfaction and service satisfaction have a significant impact on their overall satisfaction and behavioral intentions. For new energy vehicles, product quality satisfaction is mainly determined by consumers' experience in vehicle performance, mileage, safety, etc. (Xue, Zhang, Wang, Tian, Xiong, & Li, 2023). When purchasing new energy vehicles, consumers pay particular attention to their technical reliability and environmental performance, which directly affect their satisfaction with the product. On the other hand, service satisfaction is also an important variable that determines customer experience. Factors such as the quality of after-sales service, the convenience of the service process, and the timeliness of problem solving can significantly improve customer satisfaction. High-quality service experience can not only enhance customers' brand trust, but also encourage customers to give priority to products of the same brand in future purchases (Yang et al., 2020).

Brand trust, as a psychological variable, plays a mediating role and plays a key role in the relationship between customer satisfaction and repurchase intention. Brand trust can strengthen the emotional bond between customers and brands and improve customer loyalty. When customers have a high degree of trust in a brand, they are more inclined to continue to choose the brand's products even in the face of market competition or product technology changes (Song, Chu, & Im, 2021). Based on this, this study will take new energy vehicle consumers in Guangdong Province as an example to explore how product quality satisfaction and service satisfaction affect customers repurchase intention through brand trust. The study focuses on product quality satisfaction, such as vehicle performance, mileage, and safety, which are crucial aspects for customers when choosing NEVs. Additionally, service satisfaction—comprising after-sales service quality, convenience, and timeliness—further enhances customer satisfaction and plays a vital role in customer retention. By investigating these relationships, this study can provide valuable insights for NEV manufacturers in Guangdong Province and across China. The findings will inform strategies to improve customer loyalty, enhance brand trust, and foster a more sustainable, consumer-oriented market for new energy vehicles. Ultimately, the research addresses both practical business needs and broader goals of promoting environmentally friendly transportation solutions.

2. Research Objectives

According to the research background, the research objectives of this paper are as follows:

1. To explore the impact of product quality satisfaction and service satisfaction on repurchase intention and their influencing mechanism.

2. To explore the impact of product quality satisfaction and service satisfaction on brand trust and their influencing mechanism.

3. To explore the impact of brand trust on repurchase intention and their influencing mechanism.

4. To explore the mediating role of brand trust between customer satisfaction and repurchase intention and its influencing mechanism.

3. Literature Review

3.1 The impact of customer satisfaction on repurchase intention

Customer satisfaction is one of the key factors affecting consumers repurchase intention. A large number of studies have shown that customer satisfaction with products can significantly improve their future repurchase behavior. In the field of new energy vehicles, satisfaction with product quality and service quality is particularly important and has become the main variable affecting consumer decision-making. Specifically, product quality satisfaction often comes from consumers' perception and evaluation of new energy vehicle technology, safety,

performance, etc. Studies have found that consumers' high satisfaction with the technical reliability and environmental friendliness of new energy vehicles can directly lead to their repurchase intention (Miao, Cao, Zhang, Chen, Jiang, & Wang, 2014). Product quality satisfaction is not limited to the hardware performance of the product, but also includes consumers' feelings about their actual use experience. Factors such as technological innovation and endurance of new energy vehicles play a significant role in improving customer satisfaction (Song et al., 2021). In China, especially in Guangdong Province, the market share of new energy vehicles has gradually increased, and the improvement of product quality has become the key to improving customers repurchase intention. In a study of new energy vehicle consumers, customer satisfaction with vehicle performance and environmental features explained up to 40% of the variance in repurchase intention (Cruz-Jesus, Figueira-Alves, Tam, Pinto, Oliveira, & Venkatesh, 2023). This suggests that product quality satisfaction not only affects customers' first purchase decisions, but also increases the likelihood of repurchase through their continued satisfaction with vehicle performance.

In addition, service satisfaction also plays a vital role in improving customers repurchase intention. High-quality after-sales service, maintenance service, and timely customer response can not only improve consumers' overall experience, but also enhance their brand loyalty. Service satisfaction increases the likelihood that customers will continue to choose the same brand in future purchases by improving customer-brand interaction (Miao et al., 2014). Studies have shown that improved service quality helps to enhance customer trust in the brand, thereby promoting an increase in repurchase intention.

Based on the above analysis, this paper proposes the following hypotheses:

H1: Product quality satisfaction has a significant impact on repurchase intention.

H2: Service satisfaction has a significant impact on repurchase intention.

3.2 The impact of customer satisfaction on brand trust

The impact of customer satisfaction on brand trust has been confirmed in studies in many fields. Customer satisfaction is not only immediate feedback on products or services, but also has a profound impact on their long-term trust and reliance on the brand. For the new energy vehicle industry, customer satisfaction with product quality and service quality has become an important factor in determining brand trust. Studies have shown that customer satisfaction has a significant positive impact on brand trust, especially when consumers have a high level of awareness and satisfaction with product quality, their trust in the brand is significantly improved (Tuti & Sulistia, 2022). Product quality satisfaction, as an important part of customer satisfaction, is directly related to consumers' trust in the brand. Good product quality, including vehicle performance, technical reliability and environmental performance, can enhance customers' trust in the brand. Studies have shown that when product quality can meet or exceed consumer expectations, customers' reliance and trust in the brand will increase significantly (Sinta, Lumbanraja, BebyKarina, & Sembiring, 2023).

In addition, service satisfaction is also an important factor affecting brand trust. Good after-sales service, customer support and repair services can not only improve the overall customer satisfaction, but also enhance the customer's sense of identity and loyalty to the brand. Studies have shown that the improvement of service quality significantly enhances consumers' trust in the brand, especially when the after-sales service system is improved, consumers' trust in the brand is significantly increased (Fikri, Yasri, & Abror, 2018).

Based on the above analysis, this paper proposes the following hypothesis:

H3: Product quality satisfaction has a significant impact on brand trust.

H4: Service satisfaction has a significant impact on brand trust.

3.3 The impact of brand trust on repurchase intention

The impact of brand trust on repurchase intention has been verified in multiple studies. As an important determinant of customer long-term loyalty, brand trust can not only enhance customer dependence on the brand, but also play a key role in customers' purchasing decisions. Studies have shown that brand trust enhances customers' future repurchase intention by enhancing brand loyalty. When customers have a high degree of trust in the brand, they are more likely to choose to continue to buy the brand's products (Susetyo & Ronny, 2017). Brand trust can also affect customers repurchase intention through other variables. For example, electronic word-of-mouth (E-WOM) and brand image have a positive impact on repurchase intention through brand trust. After establishing trust in the brand, customers will not only actively participate in spreading positive information about the brand, but also enhance their loyalty to the brand, thereby increasing the possibility of repurchase (Sari, Fauzi, & Rini, 2021). In addition, brand relationship quality is also an important mediating variable for brand trust to affect repurchase intention. The improvement of brand relationship quality can further consolidate customers' trust in the brand and promote their repurchase behavior (Pitaloka & Gumanti, 2019).

Based on the above analysis, this study proposes the following hypothesis:

H5: Brand trust has a significant impact on repurchase intention.

Conceptual Framework

Based on previous research on customer satisfaction, brand trust and repurchase intention, the conceptual framework of this article is shown in Figure 1.
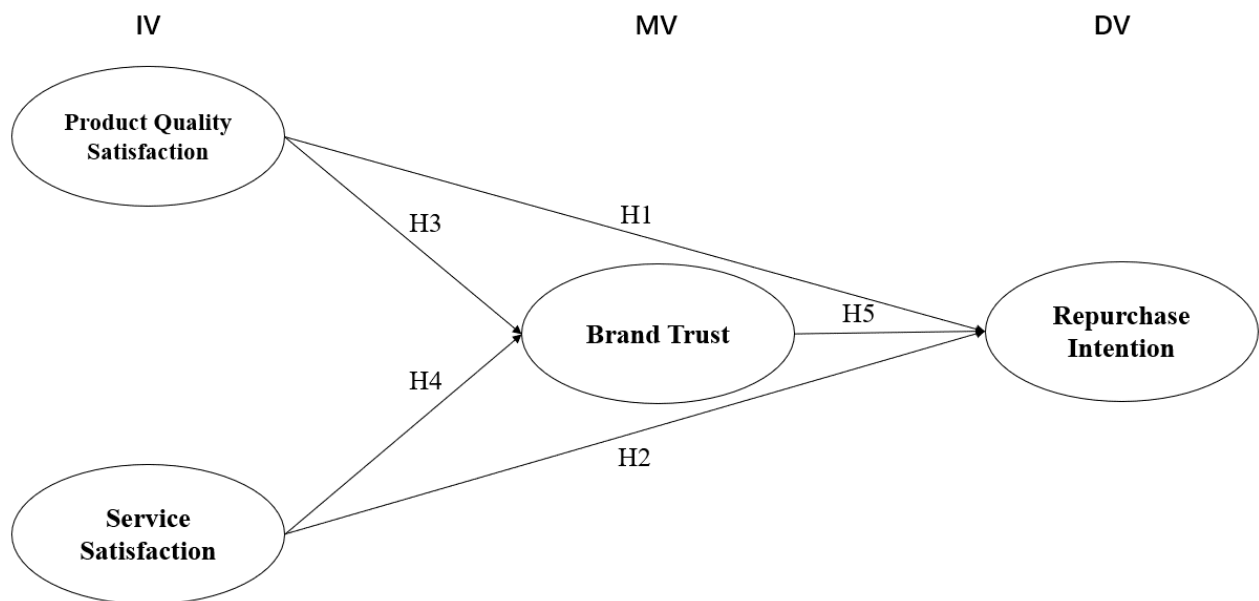

Figure 1: Conceptual Framework

Research Scope

The research scope of this article is Guangdong consumers who have purchased and driven new energy vehicles in Guangdong Province, China within one year. Consumers who have purchased new energy vehicles for more than one year, consumers who have not purchased and driven new energy vehicles in Guangdong Province, China, and non-Guangdong consumers are not within the scope of this research.

4. Methodology

This study adopts a quantitative research method, aiming to collect data on variables such as customer satisfaction, brand trust and repurchase intention of new energy vehicles through questionnaires. Quantitative research methods are highly scientific and rigorous, and can help us systematically verify the relationship between various hypotheses. This study uses random sampling as the main means of data collection to ensure the representativeness of the sample and the universality of the research results.

First, the design of the questionnaire is based on a mature scale in the existing literature. The scale covers the measurement indicators of major variables such as product quality satisfaction, service satisfaction, brand trust and repurchase intention. The questionnaire will be randomly distributed to new energy vehicle consumers in Guangdong Province offline. Since most of the consumers of new energy vehicles are concentrated in Guangzhou, Guangdong Province, the questionnaire distribution locations will be distributed in the east, south, west, north and central parts of Guangzhou to ensure the diversity and coverage of the sample. To further ensure the reliability of the data, this study randomly distributes the samples in different genders, age groups and monthly income levels to reduce potential sample bias. In order to evaluate the reliability of the data, this study uses Cronbach Alpha coefficient to measure the internal consistency of each variable. The closer the Cronbach Alpha value is to 1, the higher the internal consistency of the data. It is generally believed that when the Alpha value is greater than 0.7, the reliability of the data is high. Through this reliability analysis, the reliability and stability of the data can be ensured, thereby providing a reliable data basis for subsequent factor analysis and path analysis.

In terms of data validity, this study uses confirmatory factor analysis (CFA) to evaluate the convergent validity, discriminant validity and model fit of the data. Convergent validity refers to whether the measurement items under the same latent variable can be effectively aggregated together. This study will measure it through average variance extracted (AVE) and composite reliability (CR). Discriminant validity refers to the degree of distinction between different latent variables, which is measured by the correlation coefficient matrix between variables. If both convergent validity and discriminant validity meet the standards, it means that the data has good validity. In addition, fit indicators such as the chi-square degree of freedom ratio (CMIN/DF), standardized fit index (CFI) and root mean square error approximation (RMSEA) will also be used to evaluate the overall fit of the model to ensure the rationality and scientificity of the model.

Next, this study uses Amos software in the structural equation model (SEM) to perform path analysis to verify the relationship between the hypotheses. Path analysis can help us understand the direct impact of product quality satisfaction and service satisfaction on repurchase intention, and its indirect impact through brand trust. Through path analysis, we can determine the significance of each path and whether each hypothesis is valid, and further reveal the mediating role of brand trust between customer satisfaction and repurchase intention.

Finally, in order to further test the mediating effect of brand trust as a mediating variable, this study uses the Process method proposed by Hayes to analyze the mediating effect. The Process model can more carefully explore the indirect effect of brand trust between product quality satisfaction, service satisfaction and repurchase intention. Through the Bootstrap sampling method, this study will estimate the significance of the mediating effect and evaluate the strength and direction of the mediating effect, so as to fully verify the mediating role of brand trust.

In summary, this study collected data through questionnaire surveys, used a variety of quantitative analysis methods to ensure the reliability and validity of the data, and tested the relationship between the variables through path analysis and mediation effect analysis, in order to achieve the research purpose of comprehensively and in-depth exploring the relationship between customer satisfaction, brand trust and repurchase intention of new energy vehicles.

5. Results and Discussion
5.1.1 Results

A random sampling method was used to distribute 100 questionnaires in the east, south, west, north and central parts of Guangzhou City, Guangdong Province. A total of 500 questionnaires were distributed, and 466 questionnaires were collected, of which 398 were valid, with a collection efficiency of 85.41%. A detailed analysis of the demographic data of new energy vehicle customers in Guangdong Province was conducted, covering key variables such as gender, age and monthly income. According to the data in Table 1, among the 398 valid samples participating in the survey, male customers accounted for 53.52% and female customers accounted for 46.48%, indicating that the gender distribution is relatively balanced and can better represent the gender ratio of new energy vehicle users in Guangdong Province. In terms of age, the respondents are mainly concentrated between 21-40 years old, accounting for 59.30%, followed by the 41-60 years old group, accounting for 35.68%, indicating that the main user group of new energy vehicles is young and middle-aged people. In terms of monthly income distribution, most respondents have a monthly income between 3,000 and 5,000 Yuan, accounting for 49.25%, and between 5,000 and 10,000 Yuan, accounting for 35.18%. This data may reflect the purchasing power and interest of the middle-income group in new energy vehicles. The analysis of these demographic data provides a basis for understanding the market acceptance of new energy vehicles and also guides the subsequent research direction, that is, to further explore how gender, age and income level specifically affect customer satisfaction and repurchase intention, which will help automakers formulate more precise marketing and product strategies in the high-potential Guangdong market.

Table 1: Population distribution

Variable	Category	Frequency	Percentage
Gender	Male	213	53.52%
	Female	185	46.48%
Age	18-20 years old	12	3.02%
	21-40 years old	236	59.30%
	41-60 years old	142	35.68%
	Over 60 years old	8	2.01%
Monthly income	3,000 yuan and below	17	4.27%
	3000-5000 yuan	196	49.25%
	5,000-10,000 yuan	140	35.18%
	10,000 yuan and above	45	11.31%

5.1.2 Reliability analysis

In this study, we used Cronbach's Alpha coefficient to evaluate the internal consistency of the questionnaire to ensure the statistical reliability of the scale used. Cronbach's Alpha coefficients above.7 are generally considered to reflect good internal consistency. From the

data in Table 2, the Cronbach's Alpha coefficients of each variable reached or exceeded this threshold, indicating good reliability of the scale. Specifically, the Alpha coefficient of product quality satisfaction was .896, service satisfaction was .869, brand trust was .837, and the Alpha coefficient of repurchase intention was .843.

When conducting reliability analysis, we also examined the changes in Cronbach's Alpha coefficient after deleting specific items. Generally speaking, deleting any item will lead to a decrease in Cronbach's Alpha coefficient, because this usually means a reduction in the consistency and overall internal correlation of the scale. In this study, the Alpha coefficient will decrease after the item is deleted, indicating that each item in the scale contributes an important part to the measurement of the overall construct. These results emphasize the rationality of our questionnaire design and the suitability of the selected items, ensuring the reliability and validity of the research results. Therefore, each item in the scale is necessary to maintain the high reliability of the questionnaire and ensure that the satisfaction and repurchase intention of consumers in Guangdong Province in the process of purchasing new energy vehicles can be accurately measured. This precise measurement provides a solid foundation for further data analysis and the formulation of market strategies.

Table 2: Cronbach's Alpha

Variable	Item	CITC	Cronbach's α after deleting the question item	Cronbach's α
Product Quality Satisfaction	PQS1	.824	.845	.896
	PQS2	.783	.860	
	PQS3	.765	.867	
	PQS4	.706	.888	
Service Satisfaction	SS1	.743	.824	.869
	SS2	.682	.848	
	SS3	.779	.809	
	SS4	.684	.849	
Brand Trust	BT1	.620	.814	.837
	BT2	.669	.793	
	BT3	.633	.812	
	BT4	.758	.752	
Repurchase Intention	RI1	.647	.814	.843
	RI2	.748	.770	
	RI3	.615	.828	
	RI4	.705	.790	

5.1.3 Confirmatory factor analysis

Table 3 presents the parameter estimation results of each construct in the structural equation model in detail, including unstandardized factor loading, standard error, critical ratio and corresponding P value. In addition, standardized factor loading, composite reliability (CR) and average variance extracted (AVE) are listed to evaluate the convergent validity of the model. The standardized factor loading of the construct shows the correlation between each indicator and the latent variable it represents. All factor loadings are significant (P values are all less than 0.001), indicating that these indicators effectively reflect their corresponding latent constructs.

For example, the standardized factor loadings of PQS1, PQS2, PQS3 and PQS4 under the product quality satisfaction (PQS) construct are 0.901, .844, .814 and .744, respectively, which shows that these indicators are strongly correlated with product quality satisfaction and can fully reflect the variation of the construct.

Composite reliability (CR) is used to evaluate the internal consistency of the scale or construct. The CR values of all constructs in the table exceed the usual standard of .7, showing good internal consistency. For example, the composite reliability of product quality satisfaction is .896, service satisfaction is .871, brand trust is .841, and repurchase intention is .846. These results confirm the high consistency between the questionnaire items. The average variance extracted (AVE) evaluates the explanatory power of the construct, that is, how much variance of the latent variable can be explained by the measurement indicators of the construct. AVE values exceeding .5 are considered acceptable, indicating that the measurement items of the construct can explain most of the variance of the construct. As can be seen from Table 3, the AVE values of each construct also reach or exceed this threshold, such as the AVE of product quality satisfaction is .685, service satisfaction is .629, brand trust is .571, and repurchase intention is .581.

In summary, the scale used shows good convergent validity in statistics, the measurement indicators of each construct can effectively reflect its latent variables, and the questionnaire has a high internal consistency and explanatory power. These statistical results provide a solid foundation for further analysis of the satisfaction and repurchase intention of new energy vehicle customers.

Table 3: Convergent validity

Construct	Ustd. F.L.	S.E.	C.R. (t-value)	P	Std. F.L.	CR	AVE
PQS4<--PQS	1				.744		
PQS3<--PQS	1.163	.071	16.33	***	.814	.896	.685
PQS2<--PQS	1.152	.068	16.926	***	.844		
PQS1<--PQS	1.211	.067	17.959	***	.901		
SS4<--SS	1				.744		
SS3<--SS	1.118	.068	16.44	***	.850	.871	.629
SS2<--SS	.926	.064	14.453	***	.750		
SS1<--SS	1.042	.066	15.906	***	.824		
BT4<--BT	1				.874		
BT3<--BT	.844	.058	14.451	***	.683	.841	.571
BT2<--BT	.824	.05	16.371	***	.761		
BT1<--BT	.741	.05	14.713	***	.689		
RI4<--RI	1				.787		
RI3<--RI	.888	.066	13.471	***	.684	.846	.581
RI2<--RI	1.098	.066	16.641	***	.844		
RI1<--RI	.929	.065	14.344	***	.723		

Table 4 shows the discriminant validity analysis results between the four main constructs: product quality satisfaction (PQS), service satisfaction (SS), brand trust (BT) and repurchase intention (RI). The diagonal elements in the table represent the square root average variance extracted (AVE) of each construct, while the off-diagonal elements represent the correlation coefficients between different constructs.

The square root AVE of each construct is .828 for PQS, .793 for SS, .756 for BT, and .762 for RI. According to the evaluation criteria of discriminant validity, if the square root AVE of a construct is greater than the correlation coefficient between the construct and other constructs, it means that the constructs have good discriminant validity. As can be seen from the table, all square root AVE values are greater than the correlation coefficients between the corresponding constructs. For example, the square root AVE of PQS is .828, while its correlation coefficients with SS, BT and RI are .444, .448 and .427, respectively, all lower than .828. This pattern is also consistently reflected in other constructs, showing that the distinctions between the constructs are clear.

These results confirm the independence of the scale constructs, indicating that although the constructs are interrelated, they can still independently reflect different conceptual dimensions. This clear discriminant validity is crucial to ensure the validity and reliability of the research results because it ensures the independence of the constructs, allowing researchers to accurately explain the unique impact of each construct on customer satisfaction and repurchase intention of new energy vehicles. In this way, the study provides solid theoretical support for understanding and improving consumer satisfaction and its potential impact on brand loyalty.

Table 4: Discriminant validity

	PQS	**SS**	**BT**	**RI**
PQS	**.828**			
SS	.444	**.793**		
BT	.448	.532	**.756**	
RI	.427	.460	.491	**.762**

Note: the value on the diagonal represents the root mean square of AVE, and the correlation coefficients between variables are below the diagonal.

Table 5 shows the goodness of fit indexes of the structural equation model used in this study, including CMIN/DF, GFI, AGFI, CFI, RMSEA, IFI, and TLI. These indicators are used to evaluate the overall fit of the model to determine whether the model structure matches the collected data.

The CMIN/DF value is 1.332, which is far below the recommended threshold of 3, indicating that the covariance structure of the model is well consistent with the sample data. The GFI value is .963, which exceeds the recommended standard of .95, indicating that the overall fit of the model is good. Similarly, the AGFI value is .948, which also exceeds the recommended value of .90, further verifying the fitness of the model.

The CFI and IFI indexes are both .990, and the TLI is .988, both exceeding the recommended standard of .9. These indicators reflect that the overall fit of the model is excellent and significantly improved compared with the baseline model. The RMSEA value is .029, which is far below the standard limit of .05, indicating that the model has a small error and good accuracy.

These fit indices show that the research model is very consistent with the collected data, indicating that the model can effectively reflect the actual data structure, which in turn supports the appropriateness of using the model for further analysis. The excellent model fit results not only enhance the reliability of the research results, but also provide a solid statistical basis for understanding the behavioral patterns of new energy vehicle consumers. These results will help to accurately evaluate the factors affecting consumer satisfaction and repurchase intention, and provide data support for market strategies and product service improvements.

Table 5: Goodness of fit

Fit indices	Structural Model	Recommended
CMIN/DF	1.332	≤ 3
GFI	.963	$\geq .95$
AGFI	.948	$\geq .90$
CFI	.990	$\geq .95$
RMSEA	.029	$\leq .05$
IFI	.990	$>.9$
TLI	.988	$>.9$

Table 6 shows the path analysis results of the five hypotheses set in this study, including the standardized and unstandardized coefficients, standard errors, critical ratios, and P values of the paths. The results show that all hypotheses are accepted, indicating that the impact of each path is significant. The path model diagram is shown in Figure 2.

Hypotheses H1 and H2 explore the impact of product quality satisfaction (PQS) and service satisfaction (SS) on repurchase intention (RI), respectively. The path analysis results show that both constructs have a significant positive impact on repurchase intention, among which the standardized path coefficient of product quality satisfaction on repurchase intention is .202, and the standardized path coefficient of service satisfaction on repurchase intention is .219. This shows that improving customer satisfaction with product quality and service experience can significantly enhance their repurchase intention.

Hypotheses H3 and H4 examine the impact of product quality satisfaction and service satisfaction on brand trust (BT). The results show that the impact of service satisfaction on brand trust (standardized path coefficient is .415) is greater than the impact of product quality satisfaction on brand trust (standardized path coefficient is 0.264). This emphasizes the important role of service satisfaction in building brand trust, and the quality of service plays a decisive role in the formation of trust in the brand in the minds of customers.

Hypothesis H5 explores the impact of brand trust on repurchase intention, and the path coefficient is .284, indicating that the improvement of brand trust significantly enhances customers repurchase intention. This finding highlights the core role of brand trust in promoting customer loyalty and driving repeat purchase behavior.

Overall, these path analysis results provide insights into understanding consumer behavior, especially how to promote customers repurchase intention by improving the quality of products and services and enhancing brand trust. These findings have important practical significance for formulating effective marketing strategies and improving customer service.

Table 6: Research hypothesis path test

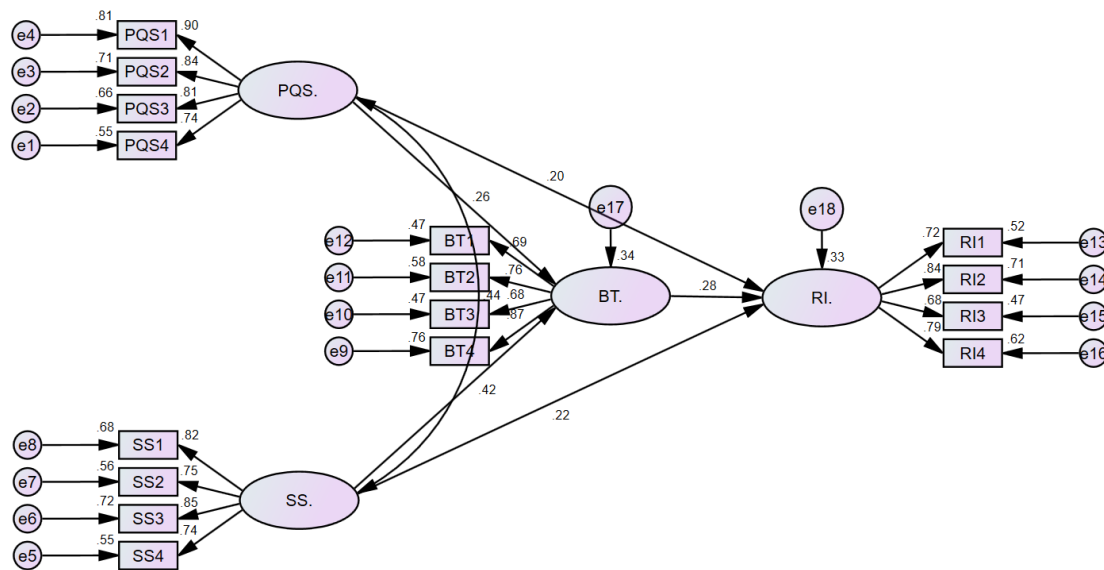| Hypothesis	Path	Std.	Unstd.	S.E.	C.R.	P	Result
H1	RI<--PQS	.202	.169	.051	3.324	***	Accepted
H2	RI<--SS	.219	.187	.056	3.337	***	Accepted
H3	BT<--PQS	.264	.273	.059	4.611	***	Accepted
H4	BT<--SS	.415	.437	.064	6.830	***	Accepted
H5	RI<--BT	.284	.230	.055	4.195	***	Accepted

Figure 2: Path model diagram

The data presented in Table 7 report in detail the impact of product quality satisfaction (PQS) on repurchase intention (RI), while assessing the mediating role of brand trust (BT). The direct, indirect, and total effects were analyzed, providing insights into how PQS affects RI through BT.

The direct effect shows that PQS has a significant positive impact on RI, with an effect size of .2043, a standard error of .0384, a t value of 5.3241, a p value less than 0.0000, and a confidence interval extending from .1289 to .2798. This significant direct effect indicates that even without considering the mediating role of brand trust, product quality satisfaction itself has a direct and strong driving effect on customers repurchase intention.

The indirect effect analysis focuses on the impact of PQS on RI through BT, with an effect of .0952 and a standard error of .0193. Although the t value is not reported, its confidence interval of .0601 to .1350 indicates that this mediation path is statistically significant. The existence of this mediating effect emphasizes the role of brand trust in the relationship between product quality satisfaction and repurchase intention, that is, customer satisfaction with the product can increase the possibility of repurchase behavior by improving trust in the brand.

The total effect combines the effects of direct and indirect paths, with a size of .2995, a standard error of .0372, a t value of 8.0449, a p value less than .0000, and a confidence interval of .2263 to .3727. The statistical significance of this total effect confirms that the comprehensive impact of PQS on RI is not only significant but also strong, both through direct effects and through the mediating effect of brand trust.

The above analysis results provide important information for market strategy formulation, especially in how to promote customer repeat purchase behavior by improving product quality and strengthening brand trust. These insights have practical application value for understanding and optimizing the mechanism of building customer loyalty, and can help companies formulate more effective marketing strategies and improve customer service experience.

Table 7: Analysis of mediating effects

	Effect	se	t	p	LLCI	ULCI
Direct effect	.2043	.0384	5.3241	.0000	.1289	.2798
Indirect effect PQS-->BT-->RI	.0952	.0193			.0601	.1350
Total effect	.2995	.0372	8.0449	.0000	.2263	.3727

Table 8 shows the impact analysis of service satisfaction (SS) on repurchase intention (RI), while considering the mediating role of brand trust (BT). Through the analysis of direct effects, indirect effects, and total effects, the data in the table provide us with insights into how to enhance repurchase intention by improving service satisfaction.

The analysis of direct effects shows that service satisfaction has a significant direct positive impact on repurchase intention, with an effect size of .2354, a standard error of .0446, a t value of 5.2764, a p value of .000, and a confidence interval from .1477 to .3231. This shows that service satisfaction itself can significantly increase customers repurchase intention without considering brand trust.

The indirect effect part examines the impact of service satisfaction on repurchase intention through brand trust, showing that the effect of the mediation path is .1182, with a standard error of .0239 and a confidence interval from .0714 to .1644. Although the t-value and P-value are not provided in the table, the significance of the confidence interval indicates that service satisfaction can indirectly increase repurchase intention by enhancing brand trust, emphasizing the important relationship between service quality and brand trust.

The total effect combines the influence of direct and indirect effects, with a size of .3536, a standard error of .0411, a t-value of 8.6027, a p-value of .000, and a confidence interval from .2728 to .4344. The statistical significance of this result indicates that service satisfaction affects customers repurchase intention through direct and indirect paths, among which brand trust plays an important mediating role.

The above analysis results highlight the importance of service satisfaction in improving customers repurchase intention, especially its ability to indirectly affect customer behavior by enhancing brand trust. These insights have important guiding significance for the formulation of marketing strategies, especially in how to build customer brand loyalty and drive repeat purchases by improving service quality. This understanding helps companies to more effectively design and implement customer relationship management strategies to enhance customer satisfaction and loyalty.

Table 8: Mediation effect analysis

	Effect	se	t	p	LLCI	ULCI
Direct effect	.2354	.0446	5.2764	.0000	.1477	.3231
Indirect effect SS-->BT-->RI	.1182	.0239			.0714	.1644
Total effect	.3536	.0411	8.6027	.0000	.2728	.4344

5.2 Discussion

This study aimed to explore the effects of product quality satisfaction and service satisfaction on repurchase intentions among new energy vehicle consumers in Guangdong Province, China, and to assess the mediating role of brand trust in these relationships. Through the analysis of data from 398 valid questionnaires, the following results were obtained.

Firstly, both product quality satisfaction and service satisfaction significantly positively impacted repurchase intentions. The direct effect of product quality satisfaction was 0.2043, and for service satisfaction, it was .2354, indicating that both factors could significantly enhance consumers repurchase intentions. These results are consistent with previous researcher Cruz-Jesus et al. (2023), Miao et al. (2014) and Song et al. (2021), suggesting that high-quality products and services significantly elevate overall consumer satisfaction and loyalty. Particularly in the new energy vehicle market, as technology advances and environmental awareness increases, consumer satisfaction with product quality and service becomes crucial.

Secondly, brand trust played a significant mediating role between product quality satisfaction, service satisfaction, and repurchase intentions. The indirect effect of product quality satisfaction on repurchase intentions through brand trust was .0952, while service satisfaction had an indirect effect of .1182 through brand trust. These findings are line with the result of Fikri, et al. (2018), Tuti and Sulistia (2022) and Sinta et al. (2023). This indicates that enhancing brand trust can strengthen the impact of satisfaction on repurchase intentions, as brand trust enhances the emotional connection between consumers and the brand, thereby increasing their loyalty and the likelihood of repeat purchasing behaviors.

6. Conclusion

In conclusion, this study not only revealed the mechanisms through which product quality satisfaction and service satisfaction directly influence repurchase intentions but also confirmed the mediating role of brand trust, enhancing our understanding of consumer behavior in the new energy vehicle sector. These findings are of significant strategic importance for new energy vehicle manufacturers. Manufacturers should focus on improving the quality of products and services while also building and maintaining a comprehensive after-sales service system to enhance consumer brand trust, thereby boosting their competitive edge and consumer repurchase rates. Additionally, these research outcomes offer strategic recommendations for promoting the new energy vehicle market not only in other provinces but nationwide, contributing to the healthy development of the entire industry.

Implication

In this study, we thoroughly explored the impact of product quality satisfaction and service satisfaction on repurchase intentions among new energy vehicle consumers in Guangdong Province, China, while assessing the mediating role of brand trust. The findings reveal several key insights and implications for market strategies.

Firstly, the direct positive impacts of product quality satisfaction and service satisfaction on repurchase intentions demonstrate that enhancing consumers' satisfaction with these two aspects is an effective way to increase their likelihood of making future purchases. This finding underscores the need for companies to continuously focus on and improve product quality and service quality during production and service processes. Especially in the field of new energy vehicles, a sector characterized by high-tech products, as environmental standards rise and consumer awareness of environmental issues increases, the performance, safety, and environmental features of the products are of utmost concern to consumers.

Secondly, brand trust plays a significant mediating role between product quality satisfaction, service satisfaction, and repurchase intentions. This indicates that strengthening consumers' trust in the brand can effectively increase their loyalty and the likelihood of repeat purchases. Therefore, companies need not only to enhance consumer satisfaction directly through high-quality products and services but also to foster repeat purchasing behaviors indirectly by building strong brand trust. This involves increasing brand transparency, ensuring consistency in products and services, and maintaining positive customer relationships.

Moreover, the impact of service satisfaction on brand trust exceeds that of product quality satisfaction, highlighting the critical role of high-quality service experiences in building and maintaining brand trust. Service extends beyond post-sale support and is a vital aspect of brand-consumer interaction. High-quality service can effectively enhance consumer brand loyalty and promote a positive brand image.

Overall, the findings of this study provide specific recommendations for new energy vehicle manufacturers regarding product strategies and market promotion. Manufacturers should focus on comprehensive quality management of products and services, enhancing consumer satisfaction and brand trust to encourage repurchase behaviors and brand loyalty. This not only helps companies stand out in a competitive market but also promotes the healthy development of the entire new energy vehicle industry. Additionally, these strategic recommendations are applicable for market promotion not only in other provinces but also nationally, helping businesses implement effective market expansion and brand building strategies across broader markets.

7. Recommendations

In this study, we thoroughly investigated the impacts of product quality satisfaction and service satisfaction on repurchase intentions among new energy vehicle consumers in Guangdong Province, China, and assessed the mediating role of brand trust. The findings offer several crucial insights and implications for market strategies.

Theoretical Recommendation

Firstly, the direct positive impacts of product quality satisfaction and service satisfaction on repurchase intentions indicate that enhancing consumers' satisfaction with these aspects is an effective method to increase their likelihood of future purchases. This discovery underscores the necessity for companies to continually focus on and enhance the quality of products and services during production and service processes. Particularly in the new energy vehicle sector—a high-tech product area—as environmental standards rise and consumer awareness of environmental issues increases, the performance, safety, and environmental features of the products are increasingly critical to consumers. Additionally, brand trust plays a significant mediating role between product quality satisfaction, service satisfaction, and repurchase intentions, signifying that strengthening consumers' trust in the brand can effectively increase their loyalty and likelihood of repeat purchases.

Policy Recommendation

From a policy-making perspective, as governments aim to promote the development of the new energy vehicle market, they should strengthen regulations protecting consumer rights to ensure the quality of automotive products and services, thereby enhancing consumer satisfaction and trust. Governments could establish a regulatory body specifically for overseeing the quality of new energy vehicles, focusing on monitoring product and service standards in the market to ensure that consumers purchase vehicles that meet high standards. Additionally, through policy support and financial subsidies, governments can encourage companies to invest in technological innovation and service system enhancements to improve the competitiveness of new energy vehicles in the market.

Practical Recommendation

For new energy vehicle manufacturers, it is crucial not only to focus on improving the direct quality of products and services but also to enhance consumer brand trust by building and maintaining a comprehensive after-sales service system, thus boosting their competitive edge and consumer repurchase rates. Manufacturers should increase brand transparency, ensure consistency in products and services, and maintain positive customer relationships to foster

brand loyalty. Moreover, companies should also implement effective market promotion and brand-building strategies to effectively expand their market presence and help the business stand out in a competitive market, which in turn promotes the healthy development of the entire new energy vehicle industry. These strategic recommendations are applicable not only in other provinces but also on a national level, assisting businesses in implementing effective market expansion and brand-building strategies across broader markets.

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