

Research on the Evaluation Dimension of Commercial Vehicle Satisfaction

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Abstract

Based on the development history of automobiles and referring to a large number of data, this paper conducts a detailed study on the evaluation dimension of commercial vehicle satisfaction through qualitative symposiums and one-to-one in-depth interviews, thereby drawing relevant conclusions and further demonstrating this evaluation. The indicator system will play an important role in promoting customer satisfaction surveys, formulating improvement strategies, and improving customer satisfaction levels in the future.

Keywords

Commercial Vehicle Satisfaction Evaluation; Evaluation Index System; Qualitative Symposium.

1. Introduction

Throughout the history of global commercial vehicle development, it has been more than 120 years since Daimler and Maybach launched the world's first truck in 1896. During the First and Second World Wars, the demand for trucks and transport-type commercial vehicles in various countries expanded rapidly, opening up a massive market for developing commercial vehicles. After 1965, the competition pattern of the global commercial vehicle market became increasingly evident, and the significant giants could occupy a place, and the commercial vehicle market expanded rapidly. In the 21st century, China's commercial vehicle industry has also developed rapidly, and it has now become an equally crucial commercial vehicle manufacturer in the United States, Europe, and other countries, see Table 1.

Table 1. The development process of commercial vehicles in the world

Time	Event
1896	Daimler and Maybach unveil the first cargo vehicle, kicking off the commercial vehicle market
1918-1945	The outbreak of the World War, the mass production of diesel-engine commercial vehicles begins
1945-1965	The recovery of the world economy requires a large number of commercial vehicles, and commercial vehicles have become important industrial pillars in various countries
1965-1985	Truck manufacturers in the world have been rebuilt one after another, and the auto industry has begun to develop towards internationalization
1985-1995	Europe has begun to formulate technical regulations for commercial vehicles, the global commercial vehicle industry is advancing by leaps and bounds, and international competition is basically stable
1995-2021	China's commercial vehicles have begun to develop rapidly, and together with the United States, Japan, and the European Union have become the world's most important commercial vehicle producer

According to data from the World Automobile Organization (OICA), from 2011 to 2018, global commercial vehicle sales continued to grow, and by 2018, production and sales reached 25.12 million and 26.97 million, respectively. Since then, due to the tightening of market demand and the impact of the new crown epidemic, the production and sales rate of commercial vehicles has declined for two consecutive years from 2019 to 2020, with production falling to 21.79 million units while sales fell to 24.37 million units. Entering 2021, the world commercial vehicle market has begun to pick up, with production increasing by 1.3 million units compared with 2020 and sales increasing by 1.63 million units.

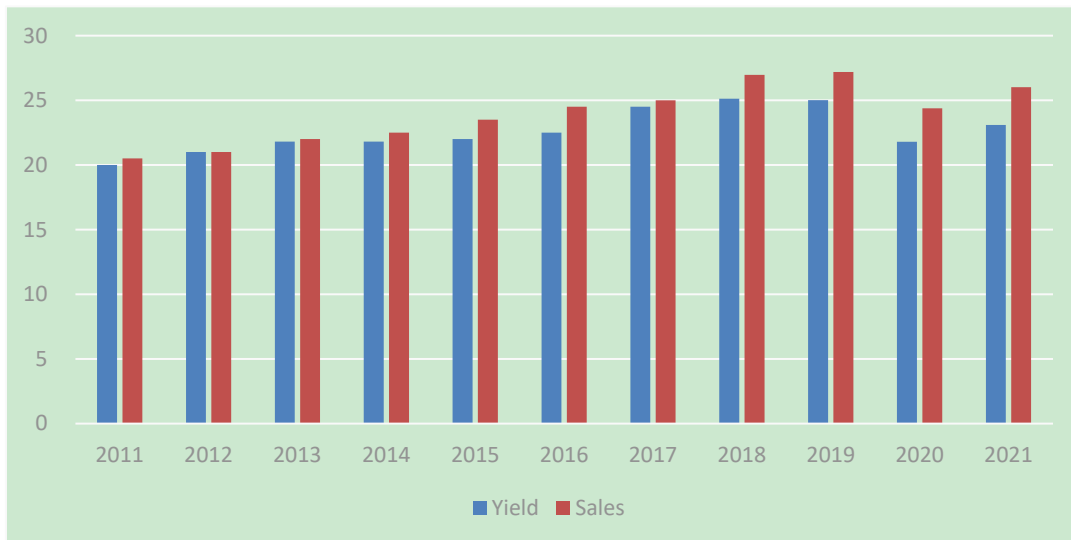


Figure 1. Global commercial vehicle production and sales (unit: million units)

The changes in the production and sales of commercial vehicles in China are slightly different from those in the world market, which also shows the particularity of the domestic market. According to the data published by the China Association of Automobile Manufacturers [1], from 2006 to 2010, the sales of domestic and commercial vehicles increased rapidly, from 2.04 million to 4.3 million, but what followed was a nearly ten-year "sideways" which has been No significant growth was seen. The performance of the last two years is that after reaching an all-time high of 5.13 million in 2020, it will fall back to 4.79 million in 2021.

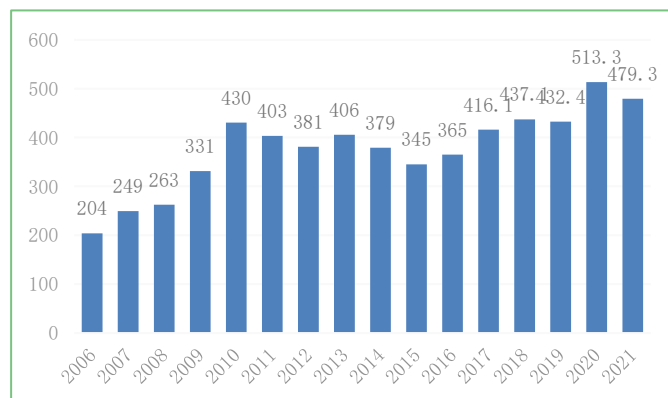


Figure 2. Sales volume of commercial vehicles in China (unit: 10,000 units)

The decline in sales in 2021 shows that the domestic, commercial vehicle market has fallen into a slump, which has led to increased competition among commercial vehicle manufacturers. Major commercial vehicle manufacturers are striving to compete for weak market increments.

User's heart. To this end, car companies have turned their attention to the construction of customer satisfaction systems because only when customers are satisfied will they buy your products and achieve the effect of boosting sales in the terminal market.

The business relationship between commercial vehicle manufacturers and customers involves three business processes: the process from vehicle sales to fulfillment of orders, the process from order fulfillment to vehicle delivery, and the process from vehicle delivery to customers for repurchase [2]. The author summarizes it as "car selection - car purchase - car use - car management - car change," but because "car change" is already in the vehicle disposal stage and no longer has in-depth contact with OEMs, products, and dealers, so This time, only the first four phases of the touchpoint study were conducted. Excavate customer needs and explore what kind of evaluation indicators can be set to objectively and comprehensively reflect the level of customer satisfaction to achieve horizontal evaluation and comparison of different commercial vehicle brands and help commercial vehicle companies make targeted improvements.

2. Research System and Objects

The research object is commercial vehicle owners who have purchased cars in the last two years and have used them for more than half a year. The brands cover the following: Jiefang, Dongfeng, Sinotruk, Auman, Shaanxi Automobile, Hongyan, Liuqi, and other mainstream commercial vehicle brands, covering the five major regions in the southeast, northwest, middle, and specific cities, including Shijiazhuang, Jinan, Zhengzhou, Wuhan, Shenzhen, Guangdong, Chongqing, Kunming and other cities in China.

The research method is to communicate face-to-face with users through qualitative seminars and one-on-one in-depth interviews. During this period, various topics such as open, semi-open, and closed choices are used to understand the scenes, links, actions, Touchpoints, satisfaction points, and complaints points., see Table 2.

Table 2. The framework of qualitative research topics

Link	Content
Project Introduction	<ul style="list-style-type: none"> ◆ Thank the respondents for participating in the interview, introduce market research and explain the purpose of the interview, interviewer introduction and company introduction ◆ Introduce this theme: It takes about 120 minutes for users to consider factors in the car buying process and experience in the process of using the car. We want to know the experience and evaluation of real car purchase
Interviewee introduction	<ul style="list-style-type: none"> ◆ name, age, family structure ◆ Working hours, driving experience of medium and heavy trucks, vehicle ownership, model ◆ Main transported goods, main transport routes, annual transport time
car selection	<ul style="list-style-type: none"> ◆ In the car selection stage, what did you do from the process of screening and comparing various models to finalizing the intended model? ◆ Among these matters, which ones do you think are more critical or important? ◆ After actually completing the work in this area, what points are you satisfied with? What points are you dissatisfied with?

<p>car purchase - communication</p>	<ul style="list-style-type: none"> ◆ In the process of further communication and understanding with the 4S store, which aspects (product/service/finance) will be communicated? ◆ Which information do you think is more critical or important? ◆ After understanding the actual communication, what points are you satisfied with? What points are you dissatisfied with?
<p>Buying a car - bargaining</p>	<ul style="list-style-type: none"> ◆ After confirming the model, it is time to negotiate the price plan. What are your requirements for the price plan provided by the sales? ◆ Did you negotiate with the sales consultant during the actual car purchase process? ◆ What do you think of the bargaining space? How difficult is it to negotiate? Did the final price meet your expectations? Does it fit your budget?
<p>car purchase - contract</p>	<ul style="list-style-type: none"> ◆ Did you check the specific terms during the signing process? Is there anything in doubt? Was the signing process smooth and efficient? ◆ After signing the contract and making payment, is the process smooth and efficient? ◆ From the signing of the contract to the delivery of the fee, what points are you satisfied with? What points are you dissatisfied with?
<p>car purchase - delivery</p>	<ul style="list-style-type: none"> ◆ Which aspects will you pay attention to when picking up the car? ◆ In fact, what kind of work did the 4S shop do for you in the process of picking up the car? Which points are you satisfied with? What points are you dissatisfied with?
<p>car</p>	<ul style="list-style-type: none"> ◆ Please describe your working day. Working hours, what kind of goods are pulled on the car, how much weight, how many times a day, how many kilometers traveled, what is the road condition, what do you usually do during the rest time? ◆ In the process of using the car, what aspects of the product do you pay attention to? ◆ How did the car perform during the actual use of the car? Which points are you satisfied with? What points are you dissatisfied with?
<p>Tube car - maintenance</p>	<ul style="list-style-type: none"> ◆ Has your vehicle been serviced? What do you do when your vehicle needs maintenance? Please describe this process. ◆ Which areas will you focus on during this process? ◆ How does the service station work? Which points are you satisfied with? What points are you dissatisfied with?
<p>Tube Cart - Maintenance</p>	<ul style="list-style-type: none"> ◆ Has your vehicle been repaired because of a breakdown? What do you do when your vehicle breaks down (while still driving) and needs repairs? Please describe this process. ◆ Which areas will you focus on during this process? ◆ How does the service station work? Which points are you satisfied with? What points are you dissatisfied with? What do you think could be better?
<p>Tube Cart - Rescue</p>	<ul style="list-style-type: none"> ◆ Has your vehicle encountered a sudden breakdown, cannot drive, and needs rescue? Please describe the process of a rescue experience. ◆ Which areas will you focus on during this process? ◆ How does the service station work? Which points are you satisfied with? What points are you dissatisfied with?
<p>The end</p>	<p>Thank the respondents for participating in the interview.</p>

3. Qualitative Research Results

3.1. Customer Touchpoints

Customer touchpoints are the interactions between manufacturers or dealers and customers in the customer journey, which all affect the customer's feelings. Through the above qualitative interviews, paper obtained the customer's contact points in each link and the customer's concerns in the process of contact and interaction., see Table 3.

Table 3. Customer touchpoints and concerns

Primary point of contact	Secondary point of contact	Tertiary point of contact	Focus point		
select	cognition	Search Information	market visibility		
			Recommended by friends and family		
			Internet information search		
Buy	contact	visit dealer	Number of dealer outlets		
			Sufficient samples		
			Dealership Location		
			Dealer size		
		Learn about product information	Sales consultant understands needs		
			Professional recommendation of sales consultant		
			Sales Consultant Knowledge Professional		
			Sales consultant service attitude		
			Three Guarantees Period		
			Service interval mileage		
	Learn about after-sales solutions	maintenance average price			
		Universal and easy to match accessories			
		Number of service sites			
		Financial Policy			
	Quote	price negotiation	Bargaining space		
			Same price in the same city		
			Parts are optional		
			Optional bodywork		
			Additional items written into the contract		
	contract	signing the contract	contract specification		
Actual performance is consistent with commitment					
deliver	Pay for pickup	lead time			
		in good condition			
		Household assistance and agency			
		Instructions on the use of the vehicle at the time of delivery			
		car use process	daily use	Quality performance	reliability
					Durability
workmanship					
Ease of maintenance					
drivability	dynamic				
	economy				
	stability				
	maneuverability				
	transport efficiency		loading capacity		
			Loading and unloading convenience		
Cargo theft					
Fuel tank capacity					

		safety	Retrofit convenience
			vision
			braking
			safety equipment
		driving environment	driving assistance
			r conditioning performance
			quietness
			seat comfort
			Sleeper comfort
			Storage Convenience
			vehicle sealing
			driver's position
			Instrument display and operation
			convenience of life
Environmental adaptability	Multimedia function		
	Ease of getting on and off		
Styling style	Special road conditions passability		
	Special environmental adaptability		
vehicle management	Maintenance	Bring a car into the station	modeling
			Number of service sites
			service station storefront
		Get the plan	Get the plan
			Reasonable maintenance items
		Accessories supply	Service attitude
			Complete spare parts
			Spare parts delivery cycle
		Three Guarantees Claim	Spare Parts Price
			Three Guarantees Claim Criteria
			Care Claims Policy
		Maintenance confirmation	Claims Processing Time Limit
			Maintenance effect
		Checkout and pick up	Maintenance effect
Maintenance time			
Maintenance cost			
emergency services	contact rescue	Rescue calls connected in time	
		Time limit for rescue to the scene	
	rescue effect	rescue costs	
		Rescue quality	

3.2. Customer Satisfaction Evaluation Index System

Table 4. Evaluation index system of commercial vehicle customer satisfaction

First-level indicator	Secondary indicators	Three-level indicator
product	dynamic	horsepower
		full load travel speed
		no-load speed
		Acceleration ability
	maneuverability	Steering performance
		shift feel
		pedal strength
		driving stability
		Passability
	safety	vision
		brake safety

	comfort	Comfort Cab Environment
		Cab environment
		Seats and Sleepers
		Air conditioning effect
	aesthetics	Audio and video entertainment configuration
		Exterior
		interior
	economy	workmanship
		maintenance cost
		daily expenses
bearing capacity	vehicle retention rate	
Durability	Carrying capacity	
convenience	Durability	
	Ease of operation	
Sales	Environmental Facilities	Ease of use
		Network distribution
		Store situation
	salesperson	Exhibition car situation
		Staff attitude
		Personnel capability
	Negotiation/Contract	sales workflow
		vehicle solution
		financial plan
		After-sales policy
	Delivery service	signing the contract
		Delivery condition
		Delivery time
	Sales return visit	car delivery
		Return visit effect
Customer relationship maintenance		
After sales	Environmental Facilities	Network distribution
		Store situation
		Workshop situation
	service reception	Staff attitude
		Service Process
	Maintenance quality	Maintenance staff
		Maintenance time
		Maintenance effect
	Delivery process	Maintenance price
		Delivery vehicle neat
		Delivery service
	Parts service	timely accessories
		Accessories prices
	Three Guarantees Claim Service	The three-guarantee policy is clear and clear
		The three guarantees are subject to strict conditions
Flexibility for Compassionate Three Guarantees Claims		
Three-packet processing response time		
rescue service	emergency call response	

		Timely rescue services
		Rescue service fee
		Quality of outbound rescue service
	user communication channels	Easy to communicate
		Complaint Handling
spread	broadcast strategy	Communication channel
		Spread frequency
		form of dissemination
	Content effect	Spread the content
spread effect		

Through qualitative interviews, many concerns of users can be found. Price is one of them. As Gai Fang, deputy secretary general of the China Automobile Maintenance Industry Association said: "Under the impact of the new crown epidemic, customers' income has decreased, price sensitivity has increased, and more attention has been paid to the interpretation and collection of maintenance costs [3]." Users will be satisfied by providing high-quality services on the items that users pay attention to. Therefore, focusing on customer concerns, based on commercial vehicle industry experience and standard sales and service processes, a complete satisfaction evaluation index system is built to reflect the service level of manufacturers and dealers fully., see Table 4.

4. Conclusion

The "communication" index corresponds to the "car selection" process, the "sales" index corresponds to the "car purchase" process, the "product" index corresponds to the "car use" process, and the "after-sales" index corresponds to the "car management" process, thus forming a process from contact points to A complete research chain from focus to satisfaction.

This evaluation index system can guide commercial vehicle companies to carry out customer satisfaction surveys, grasp the current situation of satisfaction, and discover process problems in products and services to formulate improvement strategies and continuously improve the level of customer satisfaction.

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