Advances in Economics, Business and Management Research, volume 211
Proceedings of the 2022 7th International Conference on Financial Innovation and Economic Development (ICFIED 2022)

Research on Marketing Strategies of Car buying Among Covid-19 Based on Experimental Analysis

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ABSTRACT
During the epidemic, in order to achieve sales targets and maintain quarterly performance, vehicles of various brands have reduced prices and increased sales. But in this case, it is necessary to improve the efficiency of vehicle marketing and the accuracy that customers like. From this period of time, buyers conducted a survey based on consumers of different ages, and found that most young people in the Z era pay more attention to the price, brand, and advertising of the vehicle, while the adults born in the 1980s really consider the performance and affordability of the car. Therefore, sales should be based on different consumption methods used by consumers of different age groups to promote cars.

Keywords： *Automotive marketing strategy, Customer segmentation, Auto consumption of different age groups, Economic conditions, Business analysis.*

1. INTRODUCTION

With the advancement of the technological age, automobiles have become an indispensable means of transportation in modern society. There are many trading markets in China's auto industry, such as the four forms of automobile city, automobile avenue, regional trading market, and national auto sales market. In the past ten years, China's auto market has been crucial to the business development of automakers. In the post-epidemic era, it will become even more indispensable. Market competition is fierce, national policies are at stake, and customer needs are changing rapidly. Automakers must quickly and accurately recognize the necessary conditions for their own development in order to maintain vigorous development in the fast-moving market. Therefore, the development of this paper will focus on car sales and understand customers' car purchases. This article understands customers' purchases of vehicles from the perspective of car sales, and provides better ways for car companies to sell vehicles when facing consumers of different age groups in the future. From this period of time through the Internet to analyze the income of car dealers and collect the needs of customers of different ages to purchase vehicles, and summarized five points for discussion. Basically, these five types of views show more preference for appearance design, vehicle function and performance, vehicle price, vehicle brand and advertising. This study can provide car companies with better ways to sell vehicles when facing consumers of different age groups in the future.

2. DESIGN OF THE QUESTIONNAIRE

The whole survey is from a previous paper by the author. In the previous paper, a complete questionnaire was designed in the previous paper, and obtained relevant data by the questionnaire. This paper is based on the author’s survey. At the same time, it gives a detailed analysis and concludes the data of the survey.

2.1. Why choose people of different ages to buy a car for interviews

2.1.1. About buying a car after 00

According to data from the Ministry of Public Security, as of the end of 2019, the number of car drivers nationwide was 397 million, of which 18-25 years old accounted for 12%, or about 48 million. [1]At present, most of the "Generation Z" are "owners" who have their own bases and no cars, but in the next five years, as this large group enters the workplace, the increase in spending power may first appear in the automotive field. However, even if there is no car at present, the young people of Generation Z have become the main users of cars, and their contact rate and understanding of cars far exceed their predecessors. In view of this, their preference for cars is also becoming a reference for car companies trying to understand and refer to. content.

2.1.2. About buying a car after the 80s

The "Post-80s Auto Consumer Propensity Survey Report" released at the same time at the forum once again focused the market's attention on the representative generation of "post-80s": their car purchase willingness and preference will influence the future development of China's auto market Play an important guiding role. The survey report starts with the interviewees' "judgment and demands analysis of automobile value", "recognition and cognition of automobile brands and products", "car purchase behavior analysis", and "analysis of preferences for vehicle configuration", [3] focusing on analysis It also summarizes the basic views of the representative group of "post-80s" on the overall domestic automobile market.

2.2. Accelerating change in adversity, advices to auto industry on marketing and sales during the epidemic

The outbreak of the new coronavirus pneumonia that began in 2020 is undoubtedly a black swan event affecting China's economy. It has been transmitted through layers of explicit and invisible effects, triggering a series of chain effects. Automobile, as a pillar economic industry with a deep and complex industrial chain, a deep participation in globalization, a large number of employees, and a high degree of dependence on offline scenarios, is suffering from the impact of the epidemic from all aspects. [4] The weak signs of recovery that began at the end of last year were also interrupted by the epidemic. This argument is divided into three points. The first is to objectively judge the extent and depth of the impact of the epidemic. Second, under the sudden public safety crisis, the measures taken by OEMs and distributors are used to respond quickly to challenge. At the same time, new opportunities will appear in this industry after the epidemic is over. This article will focus on these three aspects to learn more about the development of the automobile industry during the epidemic.

2.3. Several judgments on the impact of the new crown epidemic on the automotive industry

2.3.1. Short-term shocks are magnified and production and sales rhythms are disrupted

In the short term, the most direct impact of this outbreak is a significant reduction in the movement of people and social gathering activities. Compared with previous epidemics, the government has issued more stringent policies and recommendations in a short period of time on personnel mobility, production start time, and social activities. Therefore, both sides of supply and demand in the short-term passenger car market are bound to be strongly affected.

Before press time, Deloitte's automotive industry team has also conducted more exchanges and communications with domestic mainstream OEMs and auto dealers, and the feedback received has also confirmed the point of view: First, the pace of demand release has been disrupted, but with the epidemic. The development is controlled, and the previous backlog of car purchase demand is expected to be released in a concentrated manner; in particular, the epidemic will additionally stimulate consumer demand for private transportation space, which will translate into a certain increase in first purchases, but whether this part of sales can hedge the "sales volume during the epidemic" "Vacuum" still needs time to observe. [6] It expects that the annual sales growth rate depends more on the follow-up policies to relieve the burden of various enterprises and the degree of stimulus to automobile consumption. Secondly, the production side of the supply side is affected by supply chain interruption, staff rework, and poor logistics. It is difficult to restore the theoretical capacity before the epidemic in a short time. Those hot brands with low inventory depth have supply chain problems. It is more prominent.

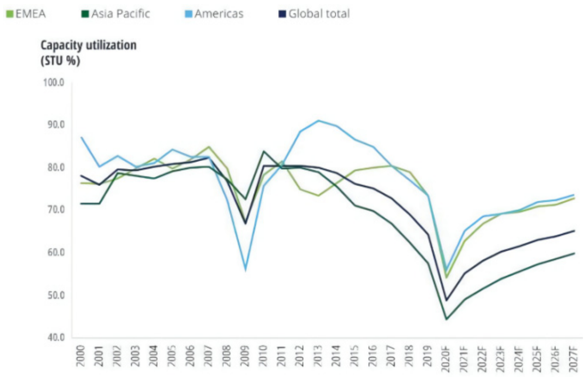

Figure 1 OEMs under pressure from anemic capacity utilization forecast

2.3.2. Still optimistic in the medium and long term, and accelerate industrial upgrading

In the medium and long term, the author is still optimistic about the overall demand for China's auto market. First, a large number of potential redemption and additional purchase needs have not been met. Whether due to the aging of the car, the change of family structure or the willingness to upgrade consumption, the replacement and increase of stock cars have become the main growth force of the market, and the non-rigid demand is affected by external forces. The impact of the economic environment is relatively insignificant, which is one of the reasons why luxury car sales have grown faster than the industry average in the past two years. Second, judging from the international comparison of the level of car ownership per thousand people, there is still room for the first purchase demand to be tapped. However, the consumer groups corresponding to rigid demand have greater consumption elasticity when facing an economic downturn. Therefore, their future growth depends on the role of the government in stabilizing the economy and stabilizing employment in restoring consumer confidence and enhancing consumption power, as well as energy consumption. Whether to introduce targeted policy measures and financial tools to stimulate the consumption potential of this group of people.

More importantly, the epidemic may bring about more far-reaching changes to the Chinese auto market. Subject to the current stricter isolation control policies, offline physical sales models have been hit. Consumers' traditional demand for buying, using, and maintaining cars and consumer behavior patterns will change from offline to online, thereby accelerating catalysis Transformation and transformation of the downstream retail end of the passenger car industry.

3. COLLECTIVE DATA

3.1. New car ownership by age

Who's buying new cars and trucks in 2020? When it comes to car ownership by age, buyers that are ages 25 to 54 purchase most new vehicles. SUV buyers tend to skew a bit older. Here's a look at car and truck buyer demographics by age group. [2]

Age 24 and younger	less than 1%
Age 25 to 54	43%
Age 55 to 64	26%
Age 65 and up	31%

Figure 2. New SUV BUYERS BY AGE GROUP

Age 24 and younger	1%
Age 25 to 54	51%
Age 55 to 64	21%
Age 65 and up	27%

Figure 3. New Sedan Buyers by Age Group

Age 24 and younger	less than 1%
Age 25 to 54	50%
Age 55 to 64	23%
Age 65 and up	26%

Figure 4. New Truck Buyers by Age

Age 24 and younger	less than 1%
Age 25 to 54	46%
Age 55 to 64	22%
Age 65 and up	32%

Figure 5. New Electric Vehicle (EV) Buyers by Age Group

Age 24 and younger	less than 1%
Age 25 to 54	54%
Age 55 to 64	22%
Age 65 and up	23%

Figure 6. New Plug-In Hybrid Vehicle (PHEV) Buyers by Age Group

3.2. Demographics for selected makes

As shown in the tables below, the author did some analysis on car brands with young and older demographic buyers compared, include Jeep, Tesla, Mazda and Volkswagen. Here is how the age demographics break down for a few selected makes, by age group. [2]

Age 24 and younger	1%
Age 25 to 54	47%
Age 55 to 64	28%
Age 65 and up	24%

Figure 7. New Mazda Buyers by Age Group

Age 24 and younger	1%
Age 25 to 54	55%
Age 55 to 64	25%
Age 65 and up	19%

Figure 8. New Jeep Buyers by Age Group

Age 24 and younger	1%
Age 25 to 54	46%
Age 55 to 64	29%
Age 65 and up	24%

Figure 9. New Volkswagen Buyers by Age Group

Age 24 and younger	Less than 1%
Age 25 to 54	45%
Age 55 to 64	27%
Age 65 and up	27%

Figure 10. New Tesla Buyers by Age Group

3.3. New car & truck buyer demographics by income

Two household income groups account for most new vehicle purchases: Under $50,000 per year (mostly single-person households) and $100,000 per year and up (mostly families). [2]

Under $50,000	31%
$50,000 to $74,999	19%
$75,000 to $99,000	10%
$100,000 and up	40%

Figure 11 New SUV Buyers by Household Income

Under $50,000	39%
$50,000 to $74,999	18%
$75,000 to $99,000	9%
$100,000 and up	34%

Figure 12. New Sedan Buyers by Household Income

Under $50,000	37%
$50,000 to $74,999	20%
$75,000 to $99,000	10%
$100,000 and up	33%

Figure 13 New Truck Buyers by Household Income

Under $50,000	21%
$50,000 to $74,999	12%
$75,000 to $99,000	10%
$100,000 and up	57%

Figure 14. New Plug-In Hybrid Buyers by Household Income

Compact Cars	560,000,000
Convertibles	22,000,000
Coupes	20,000,000
Crossovers (CUVs)	91,000,000
Diesel Vehicles	250,000,000
Hatchbacks	330,000,000
Hybrid Vehicles	300,000,000
Luxury Vehicles	430,000,000
Subcompact Cars	31,000,000
Pickup Trucks	610,000,000
SUVs	1,100,000,000
Sedans	450,000,000
Sports Cars	380,000,000
Station Wagons	8,800,000
Minivans	10,000,000

Figure 15 In-Market New Vehicle Buyer Audience Impressions

From Collective Data, it can be concluded that the characteristics of each cluster. [2]

3.3.1. Cluster 1

Among the "New car ownership by age" during 2020, it can be seen that no matter what type of vehicle, the proportion of 25-54 years old is the highest. Secondly, comparing 55-64 years old and older people over 64 years old, their ratio of favorite models is almost average. These are basically young and middle-aged people, and they prefer cars., it can be seen that no matter what type of vehicle, the proportion of 25-54 years old is the highest. These are basically young and middle-aged people, and they prefer cars. According to a study published by Cox Automotive, 64% of new car buyers rated affordability as "important." The end of

2018 is the latest data for this particular study. This topic is not included in the 2020 edition, which focuses more on process and satisfaction. About half-53%-consider the total purchase price. 20% considers monthly payment. The remaining 27% will consider the total purchase price and monthly payment. There is only one point difference between the percentages of new car buyers and used car buyers.

3.3.2. Cluster 2

Among the “New car & truck buyer demographics by income”. The average buyer of a new car, according to the National Automobile Dealers Association (NADA) in 2015, earned about $80,000 per year. We can observe the icons of new buyers of SUVs, new cars, new trucks, plug-in and BEVs by household income. Consumers with a household income of more than 100,000 yuan will choose high-level consumption when facing different vehicles, and their percentages are between 30 and 60%. Similarly, families with very low incomes also account for a large proportion. Their percentages are between 20-40%. The percentage difference between the consumption levels of other income levels is not very large, and they are all maintained at a percentage. Between nine and twenty percent.

A study by the University of California-Davis showed that in California, people with income over $150,000 per year purchase a third of electric vehicles (EVs) and plug-in hybrid electric vehicles (PHEVs). People with household income of $100,000 to $149,000 account for about 20% and people with a household income of $50,000 to $99,999 per year account for about 27% of these vehicles.

3.3.3. Cluster 3

Among the “In-Market New Vehicle Buyer Audience Impressions”. These are auto intenders, commonly called an “in-market audience.” They’re active online, searching for information about new vehicles and researching various models and makes of new vehicles. These consumers are visiting OEM websites and automobile dealer websites, looking at vehicle specs and pricing. We can reach these digital audiences with highly targeted online advertising. According to everyone's unanimous impression, the impression of off-road vehicles is unanimously considered as the most popular vehicle to buy, followed by small cars or luxury cars that we usually see easily. Because when we drive, we always choose small cars on the road, which can best reflect the convenience of small cars.

4. SOLUTIONS UNDER THE EPIDEMIC

4.1. Develop new online services and integrate online and offline marketing

During the epidemic, the offline retail industry was most affected. The traditional passenger car market is also highly dependent on offline sales. Offline stores with 4S stores as the main body basically cover the entire purchase process of customer selection, testing, and delivery. In the case of epidemic isolation, the traditional offline sales model will inevitably be frustrated. Correspondingly, OEMs should change their thinking, make full use of online media resources, and open up a new retail model that combines offline and online under the premise of doing a good job of in-store epidemic prevention in offline stores. Use online live talk about the car, online car evaluation; use the online flagship store as a platform or self-developed brand APP to sell cars online; equipped with 24-hour online customer service, interact with consumers through barrage during the live broadcast communication. [5] Create an online interactive sharing live broadcast platform to instantly understand consumer needs, and truly achieve online one-to-many simultaneous product introduction and sales. New digital tools such as online VR smart showrooms can help customers better understand car conditions online and choose suitable models to optimize consumers' online shopping experience. The online platform can also introduce a community model to create a custom social platform, with a unified customer ID as a touch point, and bind it with the social platform account link, record customer preferences, and provide more accurate products and services in a targeted manner Push.

4.2. Standardized door-to-door service to create high-quality customer experience

As an end-to-end supporting service for online marketing, offline service scenarios such as test drive, delivery, inspection, maintenance, and replacement are still required in the car transaction process. Under the influence of the epidemic, traditional offline transaction scenarios have been blocked. In order to provide consumers with integrated services, OEMs may consider setting up a unified mobile experience solution. Relying on dealers, OEMs provide customers with on-site test drives, on-site replacement evaluations and other services, and transfer the transaction scenarios of traditional 4S stores to customers’ homes. This not only ensures safety during the special epidemic period, but also brings more consumers convenient. After the outbreak, major distributors responded quickly to launch mobile solutions. However, the independent rapid response of dealers is bound to be quite different, resulting in the lack of standardized and unified solutions, and an uneven customer experience. [5] The unified mobile solution set up by the OEM can ensure uniformity and high standardization in the dealership stores, and also enhance the customer experience. Audi, in collaboration with e-drive and Didi, provides consumers with after-sales service that provides full pick-up and delivery and home-to-home after-sales service. By calling local dealers, consumers can pick up and deliver the car before and after the service provided by e-drive and Didi. Consumers can enjoy the fast and convenient after-sales service without leaving home during the whole journey. GAC New Energy has launched a "one-click all-inclusive" after-sales service in its APP, which includes all maintenance, consumables replacement, door-to-door pickup and delivery services and other services within the period, so that consumers can complete all car use and after-sales through the APP during the epidemic. need.

4.3. Respond to the challenges of the new energy market, seize opportunities, and accelerate market layout

After 2018, China's overall auto market has experienced continuous negative growth, while at the same time, the production of new energy vehicles has grown against the trend. A large number of new energy vehicle brands were born, and new car-making forces represented by Weilai, Xiaopeng and Weimar have emerged. Traditional OEMs have also accelerated the deployment of new energy vehicles by relying on their advantages in capital, supply chain and technology. However, with the decline of subsidy policy, the sales of new energy vehicles in 2019 was 1.206 million, which was a decrease from 2018. According to statistics from the China Automobile Association, the sales of new energy vehicles in January 2020 were 44,000, a sharp drop of 54.4% year-on-year. [5] It is foreseeable that the new energy vehicle industry will still face greater pressure in 2020, and the continuing epidemic will also make the industry competition more intense, quickly entering the market competition of the survival of the fittest.

Compared with traditional fuel vehicles, new energy vehicles not only pay more attention to consumer experience in design, but also use new retail models more boldly and in the lead in marketing models. During the epidemic, new car-making forces with digital marketing genes also relied on their original advantages to practice new business models such as online car viewing, online car purchase, and online diagnosis at the fastest speed. Quickly responding to market changes, opening up online and offline channels, optimizing consumer shopping experience, and ultimately improving customer satisfaction and brand loyalty are the advantages of new energy vehicle manufacturers during the epidemic. [7] For traditional OEMs, their strong financial strength will help them better withstand risks such as cash flow pressure, enabling them to accelerate the completion of the new energy vehicle market after the epidemic is over. Finally, whether it is for traditional car manufacturers or emerging forces, their sense of social responsibility demonstrated in all aspects of material donations, travel services, and customer care during the epidemic will promote their brand upward development and mid-to-long-term sales growth after the epidemic ends.

5. CONCLUSION

The article analyzes the sales of auto dealers during the epidemic, and writes a full article based on five types of business, gender, age, sales analysis, consumption level and development strategy. Generally speaking, different ages have different standards for consumer cars. For example, people in the post-95th age group, are easily affected by advertisements and the surrounding environment. For them, the more expensive the car, the more it can reflect their identity and self-value. But for the people born in the 80s, they will consider more. For them, the value of the vehicle depends on its practicality, and the knowledge of the vehicle itself is what they are interested in.

A comprehensive analysis, understanding and investigation should be conducted on the patterns and methods of vehicle sales during the epidemic. During the epidemic, vehicle sales have indeed destroyed the image much more than before, just as short-term shocks have been magnified and the rhythm of production and sales has been disrupted. Because of the sudden arrival of the epidemic, manufacturers, including many auto sales companies, will face a rapid downturn. For example, the manufactured vehicles cannot be sold within the specified time frame, or the inert consumption of customers during the epidemic has caused the car dealers to reduce the price of the vehicles to attract customers to buy. Generally speaking, in order to maintain customers' consumption during the epidemic, the company should conduct marketing plans for the three aspects, they are “Develop new online services and integrate online and offline marketing”, “Standardized door-to-door service to create high-quality customer experience” and “Respond to the challenges of the new energy market, seize opportunities, and accelerate market layout”. These help marketing solve the details and moments of customers when buying a vehicle, and also help to discover different concerns and choices when buying a vehicle. The paper puts forward the problems encountered by car dealers during the epidemic, and also provides corresponding solutions in the future. The epidemic period is a very special period. If you want to be unaffected during the special period, the marketing department needs to make more efforts to maintain it. This period is also a test for every car dealership. The winner will lead to a new road, and the loser will be affected by the company's closure or even bankruptcy.

REFERENCES

[1] Accelerating change in adversity, advices to auto industry on marketing and sales during the epidemic, https://www2.deloitte.com/cn/en/pages/consumer-business/articles/mkt-stratgies-for-auto-industry-under-2019-nCoV.html

[2] NEW CAR BUYER DEMOGRAPHICS 2021 (UPDATED), All company names, brand names, trademarks and logos are the property of their respective owners. BuyerZoom™ and BrandZoom™ are trademarks of Hedges & Company. Copyright 2021 Hedges & Company. https://hedgescompany.com/blog/2019/01/new-car-buyer-demographics-2019/

[3] "Survey on "Post-80s" Auto Consumption Propensity", 2009-04-23 02:40:34, Every intern reporter Gao Wei, Every net, http://www.nbd.com.cn/articles/2009-04-23/213323.html

[4] How is China accelerating car sales during a pandemic? Axel Schmidt and Koen Deryckere explore the factors behind the sales rebound in China, December 24, 2020, https://www.automotiveworld.com/articles/how-is-china-accelerating-car-sales-during-a-pandemic/

[5] How the pandemic is changing the future of automotive, Restarting the global automotive engine, 13 July 2020, by Joe Vitale, Karen Bowman, Ryan Robinson. https://www2.deloitte.com/us/en/insights/industry/retail-distribution/consumer-behavior-trends-state-of-the-consumer-tracker/future-of-automotive-industry-pandemic.html

[6] Buying a Car During the Coronavirus Pandemic: Everything You Need to Know, By Autotrader,03/18/2020 10:54am, https://www.autotrader.com/car-shopping/buying-car-during-coronavirus-pandemic-everything-you-need-know-281474980000535

[7] Dealer Practices for Buying and Servicing Your Car During the Coronavirus, By Mark Elias, 03/19/2020,4:42pm ， https://www.kbb.com/car-news/dealer-practices-for-buying-and-servicing-your-car-during-the-coronavirus/