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The Current Situation of China's Used Car Market and Development Suggestions

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ABSTRACT

With the development of the economy, Chinese residents' car ownership has been increasing, and the used car market has also ushered in a new development opportunity. However, researches and articles have revealed that the used car industry in China has arrived at a bottleneck period. This indicates that there are still huge management and development gaps in China's used car market compared with the U.S. market. This article proposes to utilize a PEST (political, economic, social, and technological) analysis to uncover differences in the two markets by comparing the current status of China in these four dimensions to the US used car market throughout the same period. A large amount of literature was studied, contrasted, and synthesized to aid in a better knowledge of the industry background. This paper explores the existing problems in the Chinese used car market at this stage and explores targeted solutions to promote the healthy development of the market.

Keywords: PEST analysis, Used car market, China.

1. INTRODUCTION

1.1. Background

Back in the 1980s, China was open for overseas trading. Foreign auto companies were eager to get into China's automobile market. Many of these investments have been quite successful. In the past decades, China's auto industry has developed rapidly, and the second-hand car market has become a very important part of the auto industry chain. Report '2019 China Automotive Aftermarket White Paper - The Red Sea Market Standing at the Crossroads of New Retail' was released, China's automobile sales reached a historic inflection point, by the end of the year coronavirus pandemic has led to fears about a recession with market failing sharply in worldwide. China's auto market had negative growth for the first time with the trend of short-term market adjustment unchanged. Under this circumstance. The reshuffling period of the new car production and sales industry has arrived. Investors, car companies, and other related parties need to adapt corporate strategy to this changing environment.

With the optimization of the industry structure, the accelerated penetration of the e-commerce channel, the dilution of the impact of the relocation and property rights system, and the change in the consumer perception and cognition of buying cars, the volume of used car transactions will continue to expand. The report said that the positive effect of the policy is still expected in the future as the overall car market returns to rationality and stabilization, the used car industry will also better adapt to the increasingly regulated market environment, and the transaction volume is expected to expand to a trillion in a year or two.

1.2. Literature Review

Pudaruth predicted the price of used cars by machine learning techniques. And published the result in 2014. Pudaruth applied multiple linear regression analysis, naïve Bayes, and decision trees to make the predictions. The data of this study was obtained from the National Transport Authority, and the variants are years, make mileage, price, etc. In the use of multiple linear regression analysis, Pudaruth found the lack of information in cars' mileage can lead to an insufficient forecast in price. With the KNN method, Pudaruth conducts a formula to calculate the normalized value of the year, and the result shows two different K values in two makes. The result for the random forest algorithm is good at classifying the data on the whole set. The last method is naïve Bayes, which is very easy to be applied

with software. The result has high accuracy. Pudaruth concludes that all four methods for the price attribute had to be classified which contained a range of prices but lack of accuracies [1].

Cai reviewed the status of the PRC's domestic second-hand car market in terms of sales volume, and national policies. Cai compared the sales volume ratio with the developed countries. From the perspective of mature markets, the transaction ratio of new cars to used cars is about 1:3, while the ratio of China's is about 3:1. He predicted that the transaction volume of the second-hand car market in China in the next few years will be more than four times the existing scale. Cai continued to introduce new policies that can accelerate the development of the second-hand car market. The new Used Car Trading Regulations clarified the behavioral norms of direct transactions and other forms of trade. The Adjustment and Revitalization Plan standardizes and promotes the development of the second-hand car market. Correspondingly, this policy requires the evaluation of the second-hand car market, property rights registration, transaction value-added tax collection, market supervision, etc. Cai finally concluded that low barriers to entry, tax policy is not compatible, lack of scientific standards for evaluation, Asymmetric information between buyers and sellers are the main problems of the second-hand market [2].

Feng and Wang in the research of The Analysis of Factors Affecting Used Car Value mentioned that 3 common factors had the most significant effect on second-hand car price. First, 15 factors were chosen in terms of relativity. To make the factors' result clearer, Feng and Wang then rotated the factor loading matrix. The coefficients of the factors are sorted in descending order according to the first common factor so that variables with higher results were put together. Three groups were labeled individually, and they are a substantive factor, functional factor, and economic factor. Feng adapted SPSS and processed the KMO test. The result shows that the decisive effect on the value of second-hand cars is the substantive factor. The coefficient between the service life and the physical factor shows that the service life has a strong influence on the price of second-hand cars [3].

Sammut-Bonnici explained the PEST analysis is mostly used in realigning corporate strategy and improving in business environments. In political factors, Sammut-Bonnici contended that the supranational level is gaining more importance since business activities become more globalized. For economic factors, Sammut-Bonnici pointed out the Gross Domestic Product per capita is still a good indicator of a national economy, especially in industries including jewelry, entertainment, cosmetics, etc. In this part, researchers should aware that fluctuations in the rate of exchange are a factor that may harm industries mentioned above. Sammut-Bonnici

evaluated social factors in the dimension of work patterns and attitude, customer tastes and preference, demand-supply for a product or service. One finding of Sammut-Bonnici is that people with different education levels can lead to a different preference. Technological factors face rapid changes both internal and external. Innovation is one of the reasons. Also, under most circumstances, new technologies tend to replace old ones. In this case, Sammut-Bonnici recommended that a PEST analysis should increase the awareness of the external and internal environment [4].

Dmitriev and Novikov studied optimizing the information transparency of High-Tech Enterprises and concluded that in this integration-type globalization of the world economy, enterprises should always make managerial decisions wisely. By studying the causes of the nature of the enterprise's Infosphere implementation, they brought up a concept of "informational economic transparency". After covering different areas of industries, they found out that high-tech enterprises need more transparency in information exchange [5].

Babenko and her team discussed the theoretical foundation of global e-commerce development in globalization processes. The first illustrated the definition of e-commerce with literature supported. Furthermore, statistical indicators were chosen to figure out the elements that influence global development. The primary issue that prevents the dissemination of e-commerce was given solutions.[6]

Khan and Faisal studied the effects of Coronavirus on China's economy. They believe that Coronavirus slowed down the pace of China. China was facing a tremendous job loss in 2019. Companies had trouble paying their loans. The government took measures to control the spread of the virus. Airports and harbors were sealed, and which led to a decline in export and import. The trades between country to country were severely affected. And the world's economy had a big drop [7].

Innovation brings advantages to industries from both macro-oriented and macro-oriented levels. Distant and Khongmalai indicated that entrepreneurs preferred to adapt themselves to face the changes of the economy. Factor analysis from EFA showed that the relationship between company performance and technology is positive. For laws and regulations at the macro-level. Companies need to improve and develop a series of standards to meet the government's requests [8].

Teece considered two questions to help figure out the ways China auto can use to achieve a significant share in the world auto market. He wrote that China's automakers are navigating current obstacles while also looking ahead, utilizing their sensing capabilities to seek out new opportunities outside the four paradigms' nexus. China must acquire strong dynamic capabilities to manage a worldwide footprint across regions with new regulatory

constraints if it wants to gain a large part of the global auto markets [9].

Zheng and his team applied a data-driven approach to study the survival rate of China passenger vehicles. Using thorough stock and registration data, the team examined the survival pattern by vehicle purpose and type, as well as how that pattern varies over time. Vehicle survival rates by vehicle purpose and vehicle type demonstrate that SUVs and MPVs have greater survival rates than automobiles and cross passenger cars, implying that less fuel-efficient vehicles will account for increasing shares of vehicle stock as time goes on. This trend has the potential to raise the average FC of all on-road vehicles, hence increasing national transportation petroleum consumption [10].

1.3. Objective

This study proposed the use of a Political, Economic, Social, and Technological (PEST) analysis as a method to identify problems in China's used car market and provide constructive solutions. This paper exemplifies this approach by presenting the findings of some research projects' analysis. This research concludes with some related literature reviews to illustrate the existing problem of China's used car market. In the second part, the use of PEST analysis in China's used car market is illustrated in detail with tables and figures. To see the problems thoroughly, this article compares the challenges in China's second-hand automobile market to the American second-hand car market. The U.S. market is chosen because it is quite developed and stable. Finally, suggestions for improvement in China's used car market are put forward.

2. PEST ANALYSIS

When analyzing the macro-environment of an industry, it is important to identify factors that may influence the industry's supply and demand levels and their costs. PEST analysis aims to provide strategies with a framework through which to improve organizations understanding of the external environment. Nevertheless, the study of PEST analysis can also figure out the obvious interdependencies among the various elements of the framework. Various components of the framework have explicit interdependencies (Tanya and David,2014). Growing different factors should be taken into consideration. To study an industry thoroughly, political forces are always taken into consideration. With more understanding of the trade, labor, taxation, and other regulations, can a company or an industry determine its success or failure of the business? PEST analysis makes sure that a company or an industry's performance is examined along with positive effects.

2.1. Political Dimension

Political and government policies have an impact on economic situations, which is a major factor influencing government decisions. The question of whether European countries should join the single European currency is a good example. Depending on currency exchange rates, exported, or imported items can appear expensive or affordable at any one time (Dimitrios,2013). Government actions, on the other hand, will affect organizations in a variety of ways, both directly and indirectly, since they present both possibilities and risks.

In 1998, the Ministry of Trade issued the "Administrative Measures for the Transaction of Used Motor Vehicles", which regulated the transaction of used motor vehicles and protected the legitimate interests of both buyers and sellers. After a decade, policies and regulations never stop publication to modify the mess of the used car market. For a long time, China's second-hand car transactions were built based on the second-hand car market. However, the increasing demand for transaction service functions and the arbitrary strength of various service agencies Admission to the market. The increase of private capital to establish a used car trading market and the breaking of the original state-owned monopoly. The increasing demand for transaction service functions and the gradual expansion of the scale of dealerships. The government's policy on vehicle relocation and purchase limits has objectively hampered the circulation of used automobiles, and other factors, particularly Internet e-commerce, have damaged the second-hand car market's last position. As a result, most used car dealerships have sustained losses, and second-hand car market rents are decreasing.

Table 1. The release of used car policies and regulations in recent years

Year	Policies and Regulations
2013	Second-hand Car Appraisal and Evaluation Specification
2016	The Government Work Report: Enhance Used Auto Market to Boost Economic Growth
2016	Operation and Management Regulations for Second-hand Car
2017	Circulation Enterprises The Ministry of Commerce issued the "Administrative Measures for Automobile Sales"
2018	Abolish the Policy of Restricting the Removal of Second-hand Cars
2019	Notice of Speeding up the Export of Used Cars

2020	Announcement on the Value-Added Tax Policy for the Distribution of Used Cars
2021	Notice on Promoting Second-hand Car Cross-regional Transactions

In June 2019, the National Development and Reform Commission issued the "Implementation Plan to Promote the Renewal and Upgrading of Key Consumer Products and Smooth Resource Recycling". Combined with Notice of Speeding up the Export of Used Cars, the government has been paying attention to the used car market and adjusting policies to stabilize the purchase of used cars to better meet people's travel needs. By the year 2020, the value-added tax was reformed indicated the market is in great positive trending. Promote the renewal and scrapping of used cars in an orderly manner to accelerate the popularity of used cars. The end of 2020 was the outbreak of the COVID-19 pandemic, China took a lockdown action right after the pandemic was confirmed. After the casualty was stable, the government poured money into affected industries to help revitalize and public the Notice on Promoting Second-hand Car Cross-regional Transactions to moderate the revitalization of the abandoned car purchase indicators and to meet people's auto consumption needs.

2.2. Economic Dimension

Affected by many factors such as the expansion of the used car industry and the increase of consumer demand, the scale of the used car finance market has expanded. Certified used cars have been gradually popularized in China, but the first to establish the industry benchmark is still the U.S. used car market. 2,743,000 certified used cars were sold in the U.S. in 2020, and currently, certified used cars have accounted for more than one-third of the sales of used cars to legally authorized dealers in the U.S., and are rising year by year. In contrast, domestic sales of used cars with certified nature still account for a relatively low percentage. Currently, China's domestic used car price profit remains between 5% to 6%. Domestic Product (GDP) per capita in the past 7 years can explain what the percentage is low.
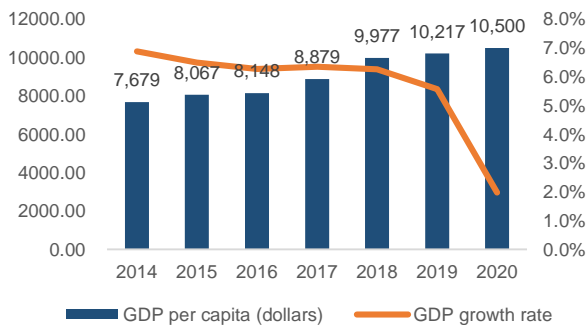

Figure 1 2014-2021 China GDP per capita and Growth

By the date this research was undertaken, China's GDP per capita is still in an increasing trend. The X-axis indicates the year. The blue bar shows the GDP per capita in dollars, and at the end of the year 2020, China's gross domestic product (GDP) was 1,015,986 billion dollars, surpassing the 100 trillion dollars mark for the first time. This year-end, most countries' economy has been negatively affected by COVID-19 panic, yet China stables the economy and has lost control and still has a growth rate at 1.98% (Red broken line in the figure indicates the annual GDP growth rate).

However, based on the historical GDP values of developed countries such as the United States, China is likely to be in a critical economic period. During this period, although the GDP per capita reached a very high standard, the social and technological developments may not match the standard.

2.3. Social Dimension

The socio-cultural environment encompasses demand and tastes, which fluctuate with fashion and disposable money, and broad changes can present both possibilities and challenges to specific businesses (Thompson, 2002). At the cognitive level, compared with the U.S., Chinese people came into contact with cars relatively late, the history of owning private cars has only gradually accumulated in recent years, and cars are currently regarded as relatively valuable tangible assets. Moreover, coupled with the inherent concept of "buy new high-tech products rather than used ones", Chinese people will be more inclined to buy new cars, and they are still more resistant to the concept of "used". Auto product is even a symbol of title, wealth, and status. The American automobile industry has a very long history, and the related automobile culture is also very profound. After a long period of integration with cars, Americans have long been accustomed to seeing the car as a daily tool and life helper, rather than an asset.

The difference in market culture and the gap in market heritage will inevitably lead to a separate sale mode. Chinese people prefer passenger cars are the main force in the second-hand car market, including cars, SUVs, MPVs, and other models whose growth rates are all above 12%. In terms of specific models, the BMW, Audi, Mercedes-Benz, and other models have been popular in China's new car market. In contrast, the U.S. used car market has more distinctive characteristics-preferring Japanese cars. Since Japanese cars tend to be more cost-effective. To be more specific, cars model like Toyota, Honda, and Nissan has engines that are suitable for lower-priced gas. Judging from the result of the U.S. Auto Commission, the retention rate of Japanese cars is leading with great advantage.

2.4. Technology Dimension

Technology is widely recognized as part of the organization and the industry component of the model in various literature on strategic management, as it is employed to create competitive advantage (Johnson and Scholes, 1993). As a result of this rapid informatization, the number of Internet users in China has risen from 620,000 in 1997 to 980 million at the end of 2020 (China Internet Network Information Center 2020). The percentage of internet users is 70.6% overall country. The rapid development of internet technology is affecting businesses in China and around the world. Professional cars evaluate websites such as Dongchedi has raised in recent years. People can find more information about used cars on the website. The rapid changes in technology have created the need for auto businesses to react quickly for them to maintain a competitive environment by offering the same innovative services as their competitors.

For China's used car market, most of the cars are imported from other countries, the innovation in pricing is limited, and so did the car brands. The cooperation of the internet and e-commerce is like an intermediary. The retailers may feel increasingly competitive with online stores. Guazi is one of the largest used car online dealers in China. This online store has been growing so fast and has disturbed other dealers' life.

3. USED CAR MARKET IN CHINA

The auto market is one of the most important industries. Vertically, it relates to steel, metallurgical plastics, glass, machinery, and electronics, while its horizontal diffraction relates to finance, commerce, services, insurance, and maintenance (Wong, 2009). The contribution of the automobile industry to taxation, employment, etc. is difficult to achieve by other industrial categories. With the comparison with a developed country. China's used car market has undergone a lot of policy regulation and reform, but the used car trading market is still in trouble. Among them, there are few cases of tampering with mileage, concealing quality problems, and falsifying qualifications. Because there is no standard access evaluation method for the used automobile market, buyers find it difficult to use the information marked by the used car vendor to decide whether or not to buy.

For the social dimension, Chinese people tend to put the new car in the first consideration. This social bias is related to the influence of the people's inherent consumer psychology, that is the development of the used car market is chaos.

The second-hand automobile market's transaction volume is continuing to grow as a result of the development and use of e-commerce, the in-depth optimization of the industry structure, changes in customer attitudes, and other reasons. For the time being, the most valuable aspect of the used automobile industry chain is used car financing. The transaction volume in the largely standardized new automobile market is concentrated in the hands of a few car dealers.

Information asymmetry is one of the biggest problems in the used car market. Due to the imbalance of information available to buyers and sellers in the used car market, coupled with China's current poor credit system, sellers may intentionally conceal certain defects in used cars, or even provide false information to facilitate the used car transaction. The relationships between car companies and IT firms are not strongly contacted. Modern cars are capable of navigating, CarPlay, messaging, and so on. But most used cars are not that up to date.

4. DISCUSSION

The lack of a standard process for accessing used cars makes it difficult for consumers to use the information indicated by the used car seller to decide on whether to purchase. The majority of used cars are refurbished or renovated in ways that make it difficult to identify the original accident marks from the exterior, making it difficult for consumers to identify the true condition of the car on their own and hindering their desire to buy. What can China's used car market learn from the U.S. is that each used car dealership should be within the platform of the vehicle used car information for a comprehensive and accurate registration, covering motor vehicle production, sales, registration, and inspection. The relevant state departments can take the lead in establishing a public trading service platform for used cars. Consumers can use the site to inquire about repair, maintenance, insurance, accidents, recalls. Second-hand car financing offers a greater possibility for growth in the market. According to auto industry admission, in the first half of 2021, China's autos were newly registered 14.14 million vehicles, an increase of 3.73 million vehicles, a total of 35% over the same period last year. Also, an increase of 1.72 million vehicles, or 13.88%, over the first half of 2019. This increase indicates the demand for second-hand cars is in tremendous growth.

The Chinese people's view of comparison consumption also affects the volume of transactions in the used car market to a certain extent, and the knowledge that consumers have is not sufficient to identify good or bad vehicles. At the same time, it is difficult for consumers to make correct judgments about the authenticity and quality of used car information, and concerns about the authenticity of vehicle accidents, performance, and mileage data also affect consumer acceptance of used cars to a certain extent. When cars are no longer so rare, and when cars become more approachable, Chinese people's awareness of them will

gradually increase. Although the factors for the development of the second-hand car market are by no means as simple as a concept, it is the enhancement of the concept that promotes the vigorous development of second-hand cars. Slow progress in information technology has led to asymmetries in used car prices and information, resulting in the inability of lenders and insurance companies to assess the asset value of vehicles, which has also limited the development of used car finance businesses. Conclusion

5. CONCLUSION

The level of the second-hand car market is certainly closely related to the development of a country's automobile industry. Even if China is not a traditional automobile manufacturing country, thanks to its huge consumer population and soaring supply and demand, it has become the world's spotlight of second-hand cars in a short period. Emerging bright spots in the market. With the PEST analysis, issues are exposed from the current market. Compared with the second-hand car market in developed countries, China's second-hand car still needs to be mature and still needs to be improved. This is not only reflected in the construction of related systems but also in the buying and selling principles and thinking of used car practitioners and consumers. In addition to the self-restraint of the market, the macro policy is also the main force to promote the development of the used car market, national tax incentives, policy support, financial support are to promote the development of the used car market booster. Technology innovation also needs further improvement. As a result, the methodology used in this study still provides some obstacles and raises open theoretical questions that should be investigated further.

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