Analysis on the Development Mode of New Car E-Commerce Platform Enterprises

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ABSTRACT

Under the background of Internet +, automobile e-commerce has become an important part of automobile marketing channel. EMo new car, Maodou new car, Tangeche and other new car trading and leasing businesses begin to emerge as the main commercial forms. This paper focuses on the new car e-commerce platform,summarizes the development models and trends of several influential new car e-commerce platform enterprises, and takes Maodou new car as an example. And the paper analyzes online and offline operations, product and market positioning, users and value-added services. The exploration for new car sales channels' transformation to e-commerce platform will provide some references for the industry.

Keywords: New car e-commerce platform, new automobile retailing model, Maodou new car, automobile sales

1. INTRODUCTION

Nowadays, with the increasingly saturated automobile consumption market and increasingly fierce competition, emerging e-commerce platform enterprises, such as Emao new car, Maodou and Tangeche, give full play to their own advantages, and strive to explore the new retail model of deep integration of online and offline, so as to provide users with convenient scene experience and car purchase services. Facing the increasingly booming automobile e-commerce platform enterprises, a part of domestic research focuses on the development models of various automobile e-commerce platform enterprises. The models can be divided into six types - traditional integrated e-commerce, dealer self-built e-commerce, vertical e-commerce, automobile self-run e-commerce, emerging automobile e-commerce and self-built e-commerce by automobile enterprises. Li Yongge ombed and summarized the characteristics of these six types of automobile e-commerce platforms[1]. Chen Shuang combined the operating characteristics of the six types of e-commerce platforms into two types: the sales lead-oriented and the offline resource-oriented, and then conducted a comparative study from objectives, advantages, and disadvantages[2]. With the case analysis of the cooperation between Ford Motor and Alibaba as the starting point, Pan Chentao et al. demonstrated the automobile "New Retail" model, which integrates of the development of both traditional automobile industry and the digital economy[3]. With the increase of e-commerce users, consumers are getting better at using the Internet to collect information about products and/or services. Most e-shoppers believe that opinions posted online are more trustworthy than brand communities. Therefore, electronic

word-of-mouth (eWOM) is increasingly valued by enterprises. The enterprises deem eWOM as listening to the customers, since listening to their opinions would help firms generate feedbacks, suggestions and a complains database, with which they could improve the features and services of future products [4].Abubakar, A. M.et al. are focused to differentiate eWOM from eReferral with an aim to investigate the impact of eWOM and eReferral on brand image and purchase intention and finally to examine the moderating effect of gender in the relationship[5]. They point out that it is good for online marketers to utilize both eWOM and eReferral in maximizing their market shares and profits by considering the type of product/service they offer, the target gender, and the societal make-up of potential consumers. Kaya, B.et al. study with a purpose to investigate the moderating role of website familiarity in the relationships between e-service quality, e-satisfaction and e-loyalty in the context of an emerging economy, Turkey[6]. The results of their study shed new lights to better understand the dynamics that contribute to customers' e-loyalty in an emerging economy and help marketing managers of e-tail industry to implement effective strategies to maintain long-lasting relationships with their customers. With the application and development of big data technology, the research on the analysis of consumer behavior in automobile e-commerce platforms based on data mining methods has also developed rapidly. ZOU Hongwei et al. have carried out a data acquisition, sentiment analysis and visual analysis from user reviews on the automobile e-commerce platform Autohome website, and demonstrated the big data analysis method of user reviews based on Python tools[7]. Liu yulin states that e-commerce online reviews help e-commerce marketers establish new evaluation methods and dynamic monitoring of sentiment changes, and grasp

the sentiment trends of the entire e-commerce industry by introducing text sentiment analysis, judging sentiment tendencies and establishing sentiment indexes[8]. Due to the characteristics of car consumption including large amount, low frequency, long cycle and high professional, the transformation of traditional sales channels is slow and the relevant research literature is also less. In what follows, the paper focuses on new car e-commerce platform enterprises, summarizes the development model and trend of several major types of new car e-commerce platform enterprises, takes Maodou as an example to explore its development characteristics and future sustainability, so as to provide reference for emerging new car sales e-commerce platform enterprises to promote the normalization of such development.

2. ANALYSIS ON THE DEVELOPMENT PATTERN OF NEW CAR E-COMMERCE PLATFORM ENTERPRISE

Under the application background of big data, cloud computing, artificial intelligence and other advanced technologies, the development of automotive e-commerce platform is very rapid. Based on the Internet, these e-commerce platform enterprises have established close cooperation with automobile production enterprises, dealers, 4S stores, finance, insurance and other automobile supply chain node enterprises and have built a new retail model of automobile with user-centered online service, offline experience and convenient whole process car purchase service by using advanced information technology such as Internet of things, big data, artificial intelligence and so on. According to the data of iResearch in 2018, among the channels for new car users to obtain automobile information, automobile vertical website accounted for 58.9%, auto e-commerce sites accounted for 48.1%, manufacturers' official websites for 30.6% and portal car channels for 21.6%.

The following is an analysis of the operation models of several major types of e-commerce platform enterprises based on new car trading.

2.1. Model of Comprehensive Automotive E-commerce Platform Enterprises

Comprehensive automobile e-commerce platform is to apply the traditional B2C model to the field of automobile e-commerce. The basic operating model of this kind of platform is to cooperate with automobile manufacturers, dealers and other settled platforms to provide customers with vehicle consulting services, as well as various preferential activities to attract online customers, and then drain to the offline 4S stores to complete the experience or car purchase and other offline process models. Taking Tmall automobile as an example, in 2015, Ali Automotive Division built the "Internet+ Automobile" industry, while Tmall automobile was positioned as the largest online

vehicle market and the largest online vehicle release platform, and expanded and extended new services on the basis of the traditional trading model. As shown in Figure 1, the Ali Automotive Business Division will cooperate with Ant Financial Services Group to launch Yu'E Bao Car Purchase, and will cooperate with Ali Data to complete accurate insight into the needs of auto consumers to improve offline back flow and offline conversion rates. In cooperation with Ford and other auto manufacturers, users can complete online booking through mobile Taobao and Tmall APP, and go offline to "active vending machine" for on-site "face swiping" and self-service car pickup to complete the "super test drive" experience service[3]. It can be seen that comprehensive e-commerce platforms no longer stay in the traditional sales service model, and will constantly expand the business cooperation with each node enterprise in the automobile industry chain, and actively explores new development channels combining online digital technology with offline entities based on its own advantages.
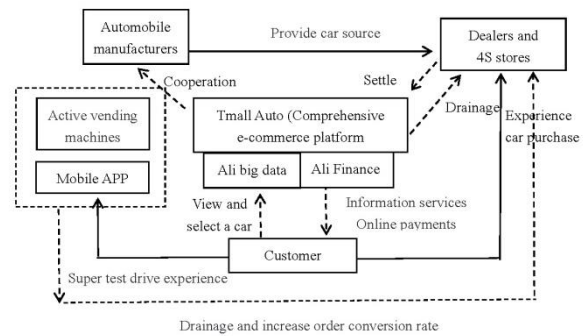

Figure 1 Conceptual diagram of operation model of Tmall auto e-commerce platform

2.2. Model of Automobile Vertical E-commerce Platform Enterprises

Automobile vertical e-commerce platform is based on automobile media information and has become the main window for current new car users to obtain information channels with the most complete quotation, convenient contrast, high information accuracy and strong professionalism. Vertical e-commerce platform's main profit model is achieved through online advertising and offline dealers ,4S store order conversion rate (as shown in Figure 2). According to the 2018 report of iResearch, 58.9% of users use vertical websites to obtain information channel[9]. Taking the Autohome as an example, since its launch in June 2005, it has successfully transformed from the 1.0 with automotive vertical media information as the main business into data-based automotive companies with "car media, car e-commerce, car finance, car life" four circles. At present, based on the advantages of artificial intelligence, big data, cloud computing, etc., Autohome is committed to the transformation and upgrading of 3.0 intelligence, and has developed a series of intelligent data

products, such as Auto smart cloud, Intelligent marketing, Intelligent online marketing, Auto think-tanks, etc, and has become a big data and technology driven automobile e-commerce platform company. As a leading enterprise in the field of automobile e-commerce, Autohome uses massive user data to conduct in-depth mining of user behavior data, and provides a comprehensive solution of the research and development, marketing and sales for automotive manufacturers, but also provide favorable data services for the automotive industry related industries or associations. It can be seen that for vertical e-commerce platform enterprises, data analysis and consulting services will become a new profit point.

2.3. Self-built E-commerce Platform Model of Automobile Manufacturers and Dealers

This kind of e-commerce platform is a new car online platform developed by automobile manufacturers or dealers for offline private brand car sources. It has the characteristics of easy access to vehicle source information and high consumer trust, which provides a new sales channel for traditional automobile marketing. As shown in Figure 3, take the "Chexiang" section, launched by SAIC Motorin in 2014 as an example, which focuses on new car e-commerce as an example[10].
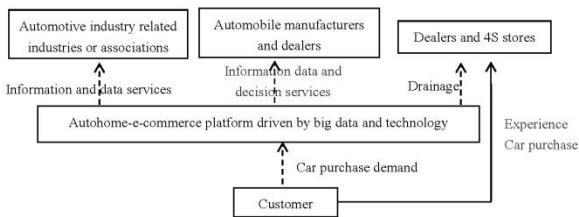

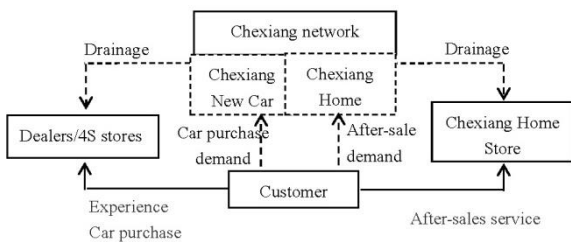**Figure 2** Operation model concept map of autohome e-commerce platform enterprise

Figure 3 Conceptual diagram of operation model of e-commerce platform from Chexiang Network

With its strong brand value and influence, it provides high-quality trading clues for offline dealers and 4S stores. At the same time, the offline store of Chexiangjia (Chexiang Home) for users to provide a differentiated convenient, timely, high-quality services to attract and meet the needs of users. Although the types of products on such platforms

are limited to the scope of manufacturers or dealers, stable car sources and strong after-sales service are also favored by consumers.

2.4. E-commerce Platform of New Cars as an Emerging Enterprise Model

With more younger users and the gradual improvement of the acceptance of the new car e-commerce platform, since 2017, the development of new car e-commerce platform enterprises with online user traffic and offline supply channels of cars, who focus on new car sales and leasing, is relatively rapid. Table 1 shows the development overview of emerging automobile e-commerce platform enterprises with new car trading as their main business.

Table 1 Overview of Emerging Automobile E-commerce Platform Companies (in order of establishment year)

| Brand	Year Established	Place Established	Development Model
Emao	2014	Beijing	A new automobile e-commerce platform providing Information + Shopping guide + Channels + Finance
Huasheng Haoche	2015	Beijing	A new automobile retail platform that provides try-before-buy /lifelong service
Tangeche	2016	Hangzhou	A new automobile retail platform that provides a 10% down payment to buy a new car, first use and then purchase financial services
Miao You Che	2016	Beijing	An innovative business model allowing less than 10% down payment to buy a new car with the way of lease purchase
Maodou	2017	Beijing	Starting with a down payment of 3,000 RMB, a new one-stop automobile retail service platform integrating online data and offline Maodou store
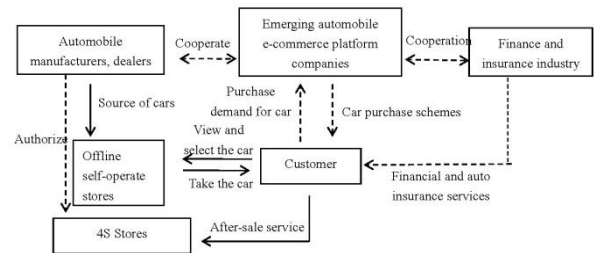
Figure 4 Conceptual diagram of the new e-commerce platform business operation model

The operating model of such platform enterprises is shown in Figure 4. They directly cooperate with many automobile manufacturers to lay their own offline stores to the whole country while solving the problem of source channels of cars, and cooperate with related companies on finance,

insurance, maintenance and after-sale to provide users with flexible and diverse car purchase schemes with low threshold, and a full range of offline automobile logistics services.

3. EMERGING AUTOMOBILE E-COMMERCE PLATFORM—— MAODOU

Maodou is an e-commerce service platform for new car sales launched by Jinmaodou Technology Development (Beijing) Co., Ltd. Since its launch in September 2017, by the end of 2018, more than 300 offline Direct stores have been opened in more than 200 cities across the country, of which 53.6% are distributed in the third tier and other lower tier cities with huge consumption potential.

3.1. The Operating Model of "Online platform + Car purchase consultant + Offline directly operated warehouse"

As an emerging automobile e-commerce enterprise driven by online data and technology, most of Maodou's business relies on the platform, except for offline car viewing, car taking and other logistics activities. As shown in Figure 5, online users use computer terminals or mobile phone apps to query, compare, and select cars, and the platform directly displays matched cars to users; users who purchase cars will have an online qualification examination, and work out the most reasonable financial scheme based on the budget of down payment and monthly payment of users; at the same time, the financial lease appointment contract is completed by electronic signing, and all steps of the down payment and monthly payment are completed by non-cash means such as WeChat, Alipay or Bank Card (pos machine). According to Maodou's App, 80% of the users will choose their own car models within 7 days. Off the line, all new cars on Maodou's platform are purchased from authorized dealers of the automotive OEMs or the automotive OEMs, and are managed uniformly in Maodou central warehouse after transportation, storage detection, coding and system input. According to statistics, Maodou's website has established cooperation with more than 24 car automotive OEMs, covering 70 mainstream models. In addition, the staff of Maodou provide customers with one-to-one and one-stop service from all the links, including car selecting and consultation, finalization of the financial scheme, offline viewing of cars and offline car taking.

To sum up, Maodou, with the help of online professional platform, as well as offline Maodou central warehouse transportation network and professional car purchase consultant team, provides consumers with online and offline integration of car selection, car purchase, one-stop car use service.
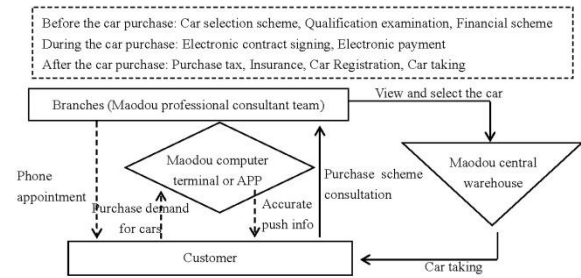

Figure 5 Conceptual diagram of the business operation model of Maodou e-commerce platform

3.2. Market Positioning with Independent Brand as the Main Force of Products

The model brands of cars from Maodou is based on its own brand. According to the big data report of Maodou in 2019, among the hot brand TOP10 list for 2019, its own brand takes seven seats, and its independent brand models occupy the top five sales. In this study, the data crawling from the official websites of Maodou and Tangeche are compared and analyzed. Figure 6 shows the proportion of brands published on the two websites. A total of 209 pieces of vehicle information have been crawled from the official website of Maodou, including 129 self-owned brands, accounting for 62%, 39 German and American cars, accounting for 18%, 29 Japanese cars, accounting for 14%, and 12 Korean cars, accounting for 6%; from the official website of Tangeche, 142 pieces of car information have been obtained, including 75 self-owned brands, accounting for 53%, 47 German and American cars, accounting for 33%, 16 Japanese cars, accounting for 11%, and 4 Korean cars, accounting for 3%. From the statistical data, the two companies are dominated by their own brands. Furthermore, the information of cars sold on the platform of Maodou is more than that of Tangeche, and the former one's proportion of independent brands is also higher than Tangeche.
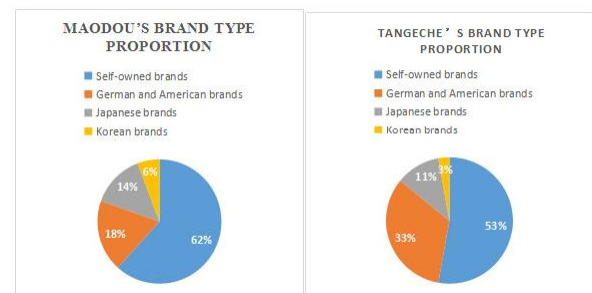

Figure 6 The statistical analysis of the official website of Maodou and Tangeche

With the analysis of statistical data of car price from the official website of Maodou, as shown in Figure 7, there are 3 cars under 50,000 RMB, 81 ones between 50,000 RMB and 100,000 RMB, and 91 ones between 100,000 RMB

and 150,000 RMB, the ones under 150,000 RMB accounting for 84% of the total. While from the website of Tangeche, there is one car under 50,000 RMB, 48 ones between 50,000 RMB and 100,000 RMB, and 53 between 100,000 RMB and 150,000 RMB, the ones under 150,000 RMB accounting for 72% of the total. It can be seen that the main sales products positioning of Maodou are mainly the cars below the middle grade of its own brand.

3.3. Mainstream User Orientation for Small Town Youth and the People from the Outer Ring of Cities

Automotive financial products have become the main channel for the rapid development of emerging e-commerce platform enterprises, at the same time, it also brings a new profit model for enterprises. Maodou's implementation of "0 to 10% down payment to drive a new car" – a low down payment finance lease method to purchase a car – has been favored by young consumers. According to the big data of Maodou, in the first half of 2018, the proportion of 18-35 year-old users has reached 75%, and the average down payment price of users is 19,000 RMB, of which 47% are under 15,000 RMB and 90% are under 30,000 RMB. According to the statistical data of car down payment disclosed on the official website, the analysis results are as shown in Figure 8.
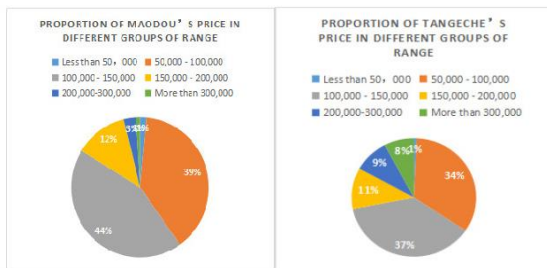

Figure 7 The propotion of Maodou and Tangeche's price in different groups of prices
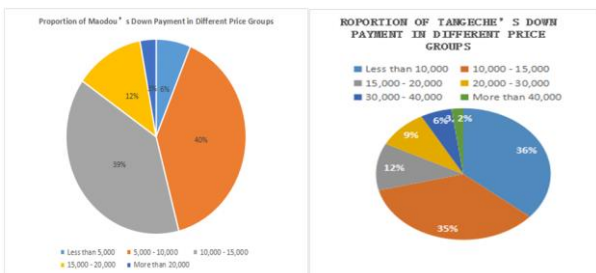

Figure 8 Maodou and Tangeche's proportion of down payment in different price groups

From Maodou's website, there are 13 cars with a down payment of less than 5,000 RMB, 83 cars with a down payment from 5,000 to 10,000 RMB, and 81 ones with a down payment between 10,000 to 15,000 RMB, and the ones under 15,000 RMB account for 85% of the total. While from the website of Tangeche, there are 50 cars

with a down payment of less than 10,000 RMB, 48 cars with a down payment between 10,000 and 15,000 RMB, and the ones with a down payment under 15,000 RMB account for 71% of the total; obviously, the down payment proportion of Maodou is much lower than that of Tangeche.The professional attributes of Maodou users are mostly self-employed freelancer or company staff. Figure 9 shows the crawling data of the car owners who has posted their purchases in the official website. A total of 42 car owners' information was obtained, of which the top five types of occupations are service industry, general occupation, freelance, manufacturing industry and sales industry. There are 9 owners in service industry, 8 in general occupation, 7 freelancers, 5 in manufacturing industry and 4 in sales industry.
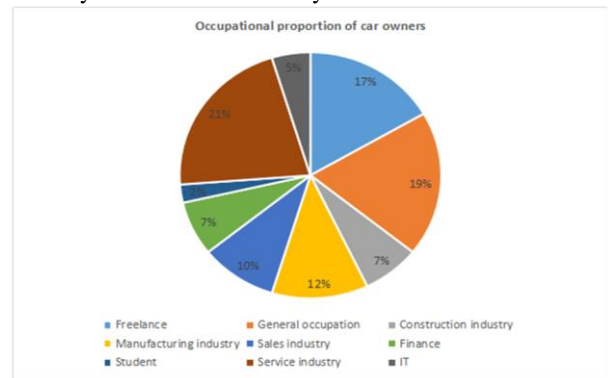

Figure 9 Occupational proportion of car owners with purchase posting from Maodou

Obviously, the group that Maodou focuses on is the young generation engaged in the ordinary post of various industries in the third line and below cities. It customizes the diversified purchase schemes with low threshold financial products, thus to excavate the potential user unceasingly and open up the market.

3.4. Summary and Enlightenment of Maodou's New Car E-commerce Enterprise Case

The operation model of the Maodou is changing the traditional sales channel of the automobile industry chain and also the purchase behavior of the users. Low-threshold and diversified financial solutions to satisfy the vast majority of potential consumers with car demand but with limited funds are more attractive than traditional car purchase methods. From the point of view of industrial chain, the large-scale layout of offline stores and central warehouses in the third line and below cities in China has realized a low cost of sinking channels for the OEMs and laid a fast passage between user demand and car supply. However, this model also brings stock pressure to Maodou, so how to apply big data and technology to quickly respond to customers' demands, increase order conversion rate, reduce inventory, establish a rapid response to user's demand changes in car procurement and supply, warehousing and logistics system is the key to improve the

overall operational efficiency. In addition, after-sales service guarantee such as maintenance and repair after purchase is another major concern of users. How to establish close cooperation with OEMs, dealers and 4S stores to provide visible, reliable and intelligent after-sales value-added service for customers is an important guarantee for users to favor and for the platform to gain sustainable development. Finally, in terms of services, car self-selecting, financial schemes, dealing with the purchase tax, offering the first year of insurance, car taking, car registration are also handled by Maodou staff. Obviously, the professional knowledge and quality level of the offline consultant team play an important role in Maodou's model. How to cultivate excellent professional team and high-quality professionals and establish an effective management system will become a major issue for emerging new car e-commerce enterprises.

4. CONCLUSION

Maodou In the current context where overall automobile sales are declining, especially where the independent brand market share are being eroded, the competition is becoming more and more serious, with the new sales channel model and new financing schemes, there appears a batch of upstream emerging automobile e-commerce platform enterprises. This paper summarizes the operation and development model of these new automobile e-commerce platforms. With the support of the example of Maodou company who is in its rapid pace of market expanding, combining the relevant public materials and the data crawled on the official website, the paper also systematically analyzes the business process of the integration of online platform and offline logistics, the orientation of the market and products, the users and their value-added services, and explores its development ways.

Under the trend of more transparency of new car prices and younger car buyers, the development model of automobile e-commerce platform enterprises will for sure gradually replace the traditional marketing model and become the mainstream of a new wave of automobile sales. These platform enterprises rely on the innovative financial leasing model and excellent big data application capabilities to provide customers with customized one-stop services, such as car consultation, car selection, car purchase, car pickup, and after-sales service. In the process of the platform development, how to utilize the moderating role of website familiarity in the relationships between e-service quality, e-satisfaction and e-loyalty to enhance the customer e-loyalty and establish a long-term trust relationship with customers is also the only way for the development and exploration of the current automobile new retail model.

ACKNOWLEDGMENT

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