



Marketing Business Model for the Automobile Spare Parts Market in China: a Case Study of Company A

Qian Li^{1*} and Shu-Chen Yang²

¹International Chinese College, MBA, Rangsit University, Pathum Thani, Thailand

²International Chinese College, Rangsit University, Pathum Thani, Thailand

*Corresponding author, E-mail: 1356281352@qq.com

Abstract

Objective: This study selected A company as the research case company to study the innovation of A company's business model. **Methods:** Using in-depth interview method as the main method, four managers of A company were invited to interview, and the results of the interview were analyzed by commercial canvas map.

Findings and conclusions: Through the interview results found that A company in marketing, production, staff training, customer relationship management, sales channels, financial management and other aspects of better. In the aspect of systematic information management, A company has considered introducing computer technology such as big data for all aspects of management.

Keywords: *Auto Parts; Case Study; Business Model Canvas; Marketing*

1. Introduction

After China joined the World Trade Organization (WTO) in 2001, national auto sales increased year by year, from 2.37 million in 2001 to 28.08 million in 2018, an increase of 1,184.8 percent. The secondary market of auto parts as the whole downstream industry is also growing rapidly. The so-called automobile after-sales market refers to the various services related to the use of cars in the after-sales market. According to the study, the average cost of using a bicycle in China is more than RMB 20,000 per year, the cost of fuel and insurance is over 50%. Furthermore, accessories, repairs, maintenance and beauty items account for more than 16% of the cost. About RMB 3,200 to meet personal needs and improve driving fun, many car owners choose to replace or add car accessories from where they come from. In addition, the rapid growth of used cars has become another advantage in the development of automotive after-sales market, and has promoted the development of the whole auto parts industry. From the above data analysis, we can see that with the increasing number of car owners, more and more car owners are buying accessories and related services from the after-sales market. Domestic auto parts market has entered a faster stage of development (Niu, 2018).

China has become an important part of the global automotive and auto parts production and supply system. The automobile parts supply chain is composed of "parts → components → components → systems → system assembly", forming a pyramid-shaped support system. Spare parts companies and suppliers companies are responsible for the modularization of spare parts and the development, design and manufacture of systems, and parts suppliers are usually divided into 1, 2 and 3 levels of suppliers (Ning, 2013).

Almost all of the world's major auto-parts giants have entered the Chinese market, while tires, car tape, audio and other auto parts made by Chinese companies are sold abroad. However, with the increased concentration of auto parts suppliers in the global automotive market, the number of primary suppliers has decreased, which has led to a change in the structure of auto manufacturers and primary suppliers as it is pyramidal. With the concentration of auto parts suppliers, some companies have monopolized parts production in some regions and made it available to many automakers (Cao, 2014).

In recent years, the scale of auto parts industry in China has been continuously improved. Since the 1990s, the auto parts industry has formed a global production and supply system. According to the principle of QCDS or QCDD, equipment manufacturers uniformly supply auto parts and accessories globally. This also makes the car a typical international product. Based on the professionalism and complexity of auto

[1783]



parts, auto manufacturers limit the self-limiting rate and seek to provide independent external parts suppliers, thus forming a pyramid-type multi-tier supplier system. As an important part of the auto industry supply system, China's auto parts industry is also developing actively. The number of companies above the scale increased from 8,396 in 2011 to 12,723 in 2016, with a compound growth rate of 8.69 percent. The GDP grew from RMB 20,568 million in 2011 to an average annual growth of 13.49% to RMB 384.5 billion (Jia, 2018).

China's automobile parts industry occupies a very important position in the national economy, and the combination industry of automobile and automobile is the largest industry in the machinery industry. With the development of automobile industry, China's automobile ownership has been growing rapidly, which provides the necessary conditions for the development of auto parts market. Due to the huge development potential of the domestic auto parts market, the market is becoming more and more concerned by domestic and foreign investors; especially the distributors of developed auto parts are considering and planning to enter the Chinese market. But because of the particularity of the starting point of the market, they cannot obtain substantial research which they cannot rush into, or enter the failure to end. There are also many investment institutions in the country that want to enter the market and seize the sales channel to build the circulation platform construction standard before the foreign side, but it is also in the state of slow and difficult development (Yu, 2018).

One of the key factors causing this situation is that there are many problems in the auto parts enterprise's own business model, which leads to many enterprises cannot grow up, and the development to a certain scale is in trouble, thus limiting the process of the whole industry developing towards the direction of standardization and order (Shao, 2016). This paper is to use the current mainstream business model analysis business model canvas as the main tool (Wang, 2013), to conduct in-depth research on the customer semesters, value propositions, pathways, customer relations, income sources, key resources, key activities, key partnership and cost structure of auto parts enterprises, and summarize the practical marketing innovation direction to provide the reference value of marketing innovation for Company A.

At present, the auto parts market is in the rapid development stage, the industry level is low, and the less investment makes the market competition more and more intense (Yu, 2018). Many accessories companies conduct regional distribution nationwide, open branches, develop product distribution channels, and compete for customer resources at various costs through various promotional activities. Small or negative returns (Zhai, 2019). Company A also feel the pressure of market change, and realize that only timely adjustment of marketing strategy can maintain competitive advantage in the fierce competition.

2. Objectives

Under the environment of steady development of automobile market, the development space and market share of domestic independent brand automobile enterprises are increasing. In the rapid development of automobile industry, Company A, as a small automobile parts enterprise, has taken advantage of the big development trend of independent brand automobile company in Jiangsu Province and occupied its own place in the market. Competitive auto parts. The purposes of this study are as follows:

1. Explore the current situation of Company A through the nine blocks of the business model canvas, including Customer Semesters, value propositions, pathways, Customer Relationships, sources of revenue, key resources, key activities, Key Partnership and cost structures.
2. In view of the above results, make suggestions for the business model of Company A.

3. Materials and Methods

Company A was founded in 2000, the company is located in Jingjiang City, Jiangsu Province, convenient transportation. The company has more than 300 employees, specializing in the production of auto parts, automotive body controller, tire pressure monitoring system, keyless access system, one-click start system and other automotive electronic products, The factory has an area of 60,000 units and an annual supply capacity of 5 million units (Jiangsu Haori, 2020).



Case study is defined as exploring the nature of the case's activities in a particular real context, hoping to understand its uniqueness and complexity (Mao & Zhang, 2007). This research adopts the single case research method, takes A company as the research object, and explore the business model of A company in depth.

This study adopts semi-structured interview, which has the flexibility and flexibility of structured interview. Therefore, it can ensure that topics can be extended beyond the unity of topics and research through the interview process (Mao and Zhang, 2007). Interviewing the managers of A company is conducted through the interview method.

This study is based on the nine main points of business model canvas proposed by Osterwalder and Pigneur (2010), which are value proposition, key activities, key resources, key partnership, customer relationships, channels, customer segments, cost structure, revenues streams, in order to design the outline of the visit after in-depth discussion with the instructor, adopt the semi-structured in-depth interview with the interviewee, and then summarize and discuss it by word-for-word interview (Teece, 2010).

This research is mainly carried out by the semi-structure of the deep interview method, and the outline of the interview is drawn up through the literature discussion and the research method steps. The preliminary outline of the interview was discussed in depth with the instructor and revised repeatedly, while the interview topic was established, as shown in Table 1. The topic of this interview takes the nine blocks of the business model as the study variable (Christoph et al, 2011), and the content is clear, so that the researcher can organize the interview results in a simple and organized manner when conducting the interview.

Table 1 Outline of Interviews

Variable	Interview topics
Target Customer Community	What is the current proportion of customer base sources? What are the target groups? What are the differences in service content or consumption content between different target groups? Are those different consumption habits reflected behind it? What are the values of the different target customer groups?
Customer Value Claims	What do you think is the maximum value you can offer to your customers at this stage at the product and service level? What action plans have your company specifically implemented to provide these values?
Customer Relations	What are your specific practices in customer relationship management and customer relationship maintenance to maintain customer satisfaction and loyalty? Are customer information regularly collected for the market? How do you collect it?
Access Patterns	What are your current access points, pathway patterns and strategies? What are the main considerations for choosing the current path layout model? In addition to physical access points, how can you improve the quality of service to customers by combining the services of online sites (self-built sites or working with other platform operators)?
Keystone Resources	Talent is the key core resource for the sustainable development of the company. What are your specific approaches to the cultivation and development of key talents in response to the company's needs for continuous growth in the future?
Key Activities	On the whole, would you like to put forward your comprehensive views and suggestions on the future direction of your company or where it should continue to improve?
Profit Model	What is your overall profit model?
Key Partners	In response to the promotion of the company's annual marketing activities or integrated service programmers, it is necessary to work with other key external partners. What are your key partners?
Cost Structure	What is the cost structure of your company?
Competitive Edge	According to your observation, what are your core competitive advantages? How can you use these advantages to help the company achieve business growth?
Core Resources	What market position do you think of your company? Where is the division from the competitors? What parts of your company do you think are superior to your competitors in terms of resources and capabilities? In your field and in the auto parts market as a whole, what are the areas where you can work harder? Why?

Sources: Osterwalder and Pigneur (2010)

[1785]



Subjects were interviewed for senior management of the A company, and went deep into various department managers, including production department, management department and quality inspection department. This study holds that if we can start from the production process, we can get a deeper understanding of the auto parts industry and discuss the problems from the beginning, so that the content results can be presented in a multi-oriented way. The article visits four managers of A company, including the chairman, the director of production, the director of sales, and the financial director of management.

Ask the respondents about their wishes, convenient time and place, then invite them by phone, and email the interview outline of the study. The purpose of the study, the interview methods and other relevant points for attention has been indicated in the telephone, and finally the appreciation for the assistance of the study has been expressed. The interview time is set at January 2020, and each interview time is not particularly limited, but it is basically completed in one hour to one and a half hours. Subject to the convenience of the respondents, interview locations were selected at coffee shops near A company.

Table 2 List of Respondents

Number	Gender	Position	Duration of interviews
A	Male	Chairman	1-1.5 hours
B	Male	Director of Production	1-1.5 hours
C	Male	Sales Director	1-1.5 hours
D	Female	Financial Officer	1-1.5 hours

The business model canvas is divided into two sides with the value proposition as the center, the left side is the discussion efficiency, and the right side is the discussion value. The business model canvas analysis starts with the customer. After identifying the target customer, the enterprise needs to determine the value claim, and the way through which the value claim needs to be passed to the customer, to establish a relationship with the customer, and then to determine what form of income flow can be brought by the relationship with the customer. When companies paint a business model canvas, they also need to determine what the key resources of the enterprise are, what the key activities are for customers, what the key partners are needed for these activities, and even what the costs of completing these key activities are ultimately determined (Jiang & Shen, 2016). The nine main elements of a business model canvas are: (1) Customer Segments: Whose problem to solve? (2) Value Proposition: Solve what problem? (3) Channels: How to get the client to find it? (4) Customer Relationships: How to build relationships with customers? (5) Revenues Streams: What will I get? (6) Key Resources: Who am I? What do I have? (7) Key Activities: What am I going to do? (8) Key Partnership: Who can help me? (9) Cost Structure: What do I have to pay?

4. Results and Discussion

This study interviewed company A for different levels of invited respondents, through in-depth interviews to collect data (Mao & Zhang, 2007), and with the literature to explore the business model canvas (Luo, 2009), using research methods steps to further explore and research. This chapter summarizes the four main core approaches of business model nine canvases, which are divided into four chapters to discuss the results of the interview and collate the main core topics of the business model, as shown in Table 3.

Table 3 Major Core Themes

Core themes	Definition
Value Transfer	Pass on what kind of value proposition to meet customer needs and solve customer problems.
Internal Operations	By the important cooperation, the key business and the key resources use each other, then creates the value, and implements the business model effectively.
External Markets	Through customer differentiation to serve customers and customer maintenance, they transfer value to customers and combine with marketing channels.



Financial Benefit	Discuss the main cost structure of the company, how to make the customer willing to accept the value and be willing to pay the purchase, and make the company generate the income
-------------------	---

Sources: Zeng (2006)

Value Proposition: According to the interview information, A company creates value proposition for auto manufacturers to provide spare parts, the production of accessories for the original factory accessories, to achieve its "service vehicle business" purpose due to its idea of "pure accessories". In the production of spare parts, quality is the primary goal to provide high quality products. For the supply of automobile sales serviceshop in all parts of the country, it relies on the convenient and high-speed logistics system in East China, timely after-sales telephone customer service and stable technical support, regardless of the auto factory in the design and production of spare parts, actively cooperating to provide auto manufacturers and consumers with the most assured service.

Key Activities: The key activities of the company are logistics distribution, information system construction, customer service center, and supplier management. The construction of logistics network ensures the timeliness and efficiency of delivery for automobile sales serviceshop and automobile manufacturers. The construction of information system helps the company to better manage the technical information, claims, logistics turnover and customer information of accessories. The construction of customer service center enables the company to better serve customers. The supplier management enables the automobile brand car factory to be free from the tedious after-sales business, better focus on vehicle manufacturing and sales, and the enterprise can get more support from the supplier.

Key Partnership: SAIC GM Wuling, Brilliance Renault, Brilliance China, Zhengzhou Nissan, Geely, BYD, FAW General Motors, FAW General, FAW Group, Dongfeng Motor, Jianghuai, the Great Wall, BAIC, Hengda Guo Neng, Shaanqi, Lifan, Jiangsu Jinzhi, Jiangsu Lingbao, etc. In the lower units, several lower companies established by A company share the business of A company in auto body controller, remote control, tire pressure monitoring system, keyless entry system, one-click start system and other auto electronics products, which directly affect the operation status of A company.

Key Resources: The key resources of A company include automotive brand authorization, logistics network, information system, information source; the automotive brand's after-sales business operation under right authorization ensures the A company's sales channel is smooth, but also ensures that the supplier source of A company is the supplier resource recognized by the automobile brand, and A company has the right to price automobile sales service shop and supplier, which is the fundamental source of its unique competitiveness. On the other hand, the self-built logistics network of A company can ensure the efficiency of its logistics distribution. The construction of information system allows A company to better handle the huge information flow of auto parts after sale. Also, the technical information source of its after-sales accessories is a crucial core resource.

Customer Semester: According to the interview information, A company's customer semesters are divided into two main categories; one is the automobile manufacturer, in the automobile production process, to provide parts of the production of the original parts, such as door lock components, hinge components, plug components, control, remote control, tire pressure monitoring system, keyless access system, one-click start system. In addition, for the service of the car manufacturer 4 Shop, the timely provision of spare parts is due to maintenance of 4 Shop.

Customer Relations: The customer relations of A company mainly include information acquisition, feedback information, timely supply and reasonable price. Company A provides feedback information to owners through information obtained from automobile sales serviceshop and customer service centers, including answering questions about accessories, accepting problems encountered by owners in the purchase and use of accessories, resolving complaints from owners and receiving comments and suggestions from owners. On the other hand, though timely supply, Company A aims to minimize the waiting time for car owners to repair and maintain by setting a reasonable price, in order to ensure the competitiveness of after-sales accessories compared with other automotive brands.

Channels: According to the interview information, A company's channels mainly include customer service center, automobile sales serviceshop, e-commerce. In the auto parts after-sale market, the use of e-

[1787]



commerce to carry out spare parts marketing can bring a lot of advantages. Effective business communication channels are to open up, quickly promote their own products and services, shorten the distance between the manufacturer and the user in the supply chain, reduce the intermediate link, strengthen the relationship between the manufacturer and the end consumer, and create parts for zero inventory and timely production.

Cost Structure: According to interview information, A company cost structure mainly includes information system construction, management cost, procurement and production cost, warehousing and logistics transportation. Information system construction mainly provides convenient management and customer service support, on the other hand, its information system construction, customer service, other human resources and technology training are also their own funds. Any enterprise needs the management as the management cost is the management of personnel's salary and the equity expense. The production department's main financial structure is the purchase and the production cost, according to each quarter automobile manufacturer pre-order detail, it carries on the fitting production plan and the fitting production. The warehousing of raw materials and finished products and logistics transportation are relatively large expenses.

Revenues Streams: The main revenues streams for A company are from the original sales of accessories; The sales of A company are based on the advance payment system, that is, the automobile manufacturer puts the payment into A company's account first, and then A company's goods are shipped to it; the purchase of A company on the other side is later paid, and the account period for the supplier is usually 30 to 60 days in order to relieve the pressure of funds through the poor resources up and down.

This study takes A company as the research object, discusses the business model canvas of A company. According to the in-depth interview analysis, the interview result and the nine elements of the business model canvas put forward the summary of the analysis result of this research, expecting to put forward the management implication and the practical suggestion through the analysis result. Synthesizing the precaution of the previous chapter helps to sort out the business model canvas of A company, the business model canvas of the nine major aspects of the relevant operation content, collated as shown in Table 4. The competitive advantage of A company lies in its key partnership and key resources, which are valuable and difficult to replace and imitate.

Table 4 Company A's Business Model Canvas 9 Lattice Rack

Key Partnership 1.Auto Makers 2.Supplier 3.Automobile Sales Servicshop 4.Lower Level Enterprises	Key Activities 1.Logistics Distribution 2.Information System Construction 3.Client Service Center 4.SupplierVendor Management	Value Proposition 1.Original Accessories 2.Quality Assurance 3.Efficient Distribution	Customer Relationships 1.Information Acquisition 2.Feedback Information 3.Timely Delivery 4.Reasonable Price	Customer Segments 1.Automobile Factory 2.Automobile Sales Servicshop
	Key Resources 1.Automotive Brand Authorization 2.Logistics Network 3.Information System 4.Information Sources		Channels 1.Client Service Center 2.Automobile Sales Servicshop 3.Electronic Commerce	
Cost Structure 1.Information System Construction 2.Administration Cost 3.Procurement and Production Costs 4.Warehousing and Logistics			Revenues Streams Sales of Accessories	

Marketing strategy is directly related to the development strategy of the enterprise (Alberto & De, 2011). At present, the competitive automobile market requires the auto parts enterprise not only to plan the

[1788]



development strategy, but also to formulate the marketing strategy to adapt to the development strategy of the enterprise according to the different market demand, in order to improve the market response speed, adapt to the market changes and enhance the core competitiveness (Jiang & Shen, 2016).

In the face of fierce market competition and more and more powerful competitors, the new marketing system is to use the power of the automotive parts chain management system and relatively independent distribution of products, labor, network, customer resources organically combined. The original war, relatively independent sales model, is to allocate your cooperation, share resources, share public risks and partner with a complementary strategic marketing model. In the fierce marketing to achieve a win-win situation with alliance enterprises, to maximize the interests of enterprises is a key (Ning, 2013).

Carrying out the marketing under the new system is not only the reflection of the consumer-centered 4C marketing thought, but also the embodiment of the enterprise's strategic alliance thought. Under the new system, marketing members must deeply understand these two management ideas, otherwise, marketing under the new system can only be a formulation and concept, cannot be implemented to the actual work (He & Yang, 2019). To carry out the marketing under the new system is to take the 4C marketing thought as the guidance, and the common interests of the marketing members as the core to form the network organization in the form of the strategic alliance of the relevant units within the enterprise. Therefore, the relatively reliable organization in the form of strategic alliance under the chain operation system (interest community), low operating cost (risk or cost sharing), and strong competitiveness (resource sharing, mutual complement of advantages) is a mutually beneficial scheme that is more acceptable to all the marketing members (Jia, 2018).

In the auto parts chain management system for product marketing system integration, the construction of product competitiveness for product integration is to do its best to stand in the user's perspective through the form of products to provide users with solutions to the problem (Shao, 2016). The integration of internal channels is the focus of channel integration, because many auto manufacturers are aimed at different middlemen to carry out business, resulting in a large number of manufacturers' transaction workload, transaction complexity. The result of this phenomenon makes each unit marketing efficiency is low, marketing risk is high, and marketing costs are high.

To integrate the internal channel is to combine the internal channel resources effectively to achieve the purpose of improving the marketing efficiency more effectively, reducing the risk and reducing the marketing cost (Hu, 2014). The original internal enterprises can be transformed into separate external forms, which are the integration of internal channels, the concentration of internal resource advantages, and the advantages of manufacturer's targeted external form.

In the past, Company A used only one single channel to enter the market. Nowadays, due to customer segmentation and possible growth channels, more and more enterprises adopt multi-channel marketing (this means that two or more enterprises have established marketing channels, have reached one or more customer groups of practice), for example, Compaq purchases directly from the company, selling products through popular e-product retailers and computer stores (Jiang, Gong, & Wei, 2012).

5. Conclusion

As for value proposition, Company A should take fully into account what kind of the model on society when implementing business model innovation, and integrate social interests into a business model of value proposition.

In the key activities, the advantages and disadvantages of corporate social image can determine whether the enterprise can develop for a long time. All enterprises need to obtain their own customer identification in the market, and can propagate the concept of the enterprise through various channels.

In the key partnership, many companies create alliances to optimize their business models, reduce risk or access resources. Company A needs to develop not only the supporting market of automobile factory, but also the after-sales maintenance market, and then improve its own market segment and effectively confirm its goals. According to the current industry norms of the after-sales industry, customers tend to prefer chain operation, and this situation is being strengthened step by step, not only customers,



relevant experts also support and agree with this model. However, there are still some shortcomings, which need to adjust in time to maximize the interests of company A, the most worthy problems in front of company A.

Regarding the key resources, it is suggested that company A mainly targets the customer group at present for the merchant big customer. With the automobile manufacturer and the brand 4S after-sales store as the main, it is very important to maintain the current resources, and borrow the current resources to expand its own business.

For target customers, company A can use existing resources and products to expand the target customer base.

In the customer relationships, dealing with customer relationship is a great significance to the survival and development of enterprises. Trying to meet the needs of customers and establishing a good customer relationship is the premise and guarantee for the survival and development of enterprise organizations.

In the channels, it is suggested that company A can open up cooperation with these mainstream auto maintenance chain stores and add new sales channels.

In the cost structure, virtual telephone customer service is set up through the big data neural network model to reduce the expenditure of part of manpower, and part of management cost can be managed scientifically through corresponding management software, big data analysis and so on, in order to reduce unnecessary management expenditure.

In the revenues streams, it is recommended that company A increases new sources of revenue on the basis of expanding its target customers, and can increase the re-innovation and design work of spare parts appearance to increase new sources of revenue.

6. References

- Alberto, F., & De, T. (2011). *International Operations Management: Lessons in Global Business*. New York: Gower Publishing.
- Cao, G. Y. (2014). Exploration on commercial model of China (Shanghai) electric vehicle international demonstration zone. *Time car*, 14(11), 64-67.
- Christoph, Z., Raphael, H., Amit, L., & Lorenzo, M. (2011). The business model: Recent developments and future research. *Social Science Electronic Publishing*, 37(4), 1019-1042.
- He, L. W. & Yang, K. Y. (2019). Research on optimization of auto parts purchasing logistics in automobile manufacturing enterprises. *Time Motor*, 19(8), 27-29.
- Hu, Y. F. (2014). The business model analysis of LED industry – take E company as an example. National kaohsiung university master's in-service master's thesis, Kaohsiung city.
- Jia, G. (2018). Current situation and trend of auto parts industry in China. *Automotive Engineer*, 18(6), 11-13.
- Jiang, J. H., & Shen, Y. (2016). The influence mechanism of value advocate innovation on value creation in service-based business model -- A case study of tread. *Science and Technology Progress and Countermeasures*, 33(13), 19-22.
- Jiang, S. S., Gong, L. M., & Wei, J. (2012). The ability to catch up with post-development enterprises in the context of transformation: Take geely group as an example. *Zhejiang Economy*, 12(3), 30-31.
- Jiangsu, Haori. (2020). About me. from <http://www.jshaori.com/about/>
- Luo, M. (2009). Review of the theoretical framework of business models. *Contemporary Economic Management*, 31(011), 1-8.
- Mao, J. T. & Zhang, X. (2007). Normative and status assessment of case study methods : A review of the china enterprise management case forum (2007). *Managing the world*, 7(4), 122-128.
- Ning, X. Y. (2013). Discussion on business model of China automotive postmarket. *Auto Parts*, 13(6), 24-31.
- Niu, S. (2018). Subversive change in automotive industry - global auto parts supplier research 2018 released. *Cars and Accessories*.

[1790]



- Osterwalder, A., & Pigneur, Y. (2010). *Business Model Generation*. Hoboken: John Wiley & Sons Inc.
- Shao, R. (2016). Automotive and spare parts industries. *Automotive Technician*, 16(12), 9-12.
- Teece, D. J. (2010). Business model, business strategy and innovation. *Long Range Plan*, 43(2-3), 172-194.
- Wang, H. (2013). Business model design with business model canvas as tool. *Chinese and Foreign Entrepreneurs*, 13(19), 3-12.
- Yu, Y. (2018). Study on business model of auto parts circulation enterprises. *National Circulation Economy*, 2186(26), 6-7.
- Zeng, T. (2006). *Research on Business Model*. Master thesis, Southwest University of Finance and Economics, Sichuan Province.
- Zhai, G. Y. (2019). Optimization and research on quality management of auto parts supply chain. *Internal Combustion Engines and Accessories*, 19(16), 224-225.