

# Study On The Transformation And Upgrading Countermeasures of Liuzhou Automobile Supply Chain

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**Abstract.** The automobile industry is the first pillar industry of Liuzhou, and also is the main battlefield for the transformation and upgrading of China's manufacturing industry to achieve informatization and intelligence. The intelligentization reform of Liuzhou automobile supply chain is in the preliminary stage of exploration, and the problems such as the lack of trust mechanism between enterprises in the supply chain, the low informatization degree of small and medium-sized parts enterprises and the financing difficulty of small and medium-sized enterprises in the supply chain are prominent. In this paper, based on the analysis of the present situation of Liuzhou automobile supply chain, putting forward some suitable suggestions and countermeasures for Liuzhou automobile supply chain's transformation to improve the efficiency and effects of Liuzhou automobile supply chain.

## 1. Introduction

The global industrial structure has entered a period of profound adjustment at present. So, the competition of China's manufacturing facing is becoming more and more fierce. Facing the fiercely situation, the industrial upgrading and transformation of China are extremely urgent. Auto industry as one of the important pillar industry of our country and is the main battlefield of China's manufacturing achieve information-based networking and intelligent development, also is the most advantage and potential development of Guangxi province, in order to further promote the development of our automobile industry, the Guangxi provincial government make a set of policies to promoting the car industry from the "automobile manufacture" transformation to "smart car"<sup>[1]</sup>.

With the increasing details of social division of labor and the rapid development of information technology, automobile enterprises in Liuzhou seeking high-quality supply chain partners from all over the country and establish supply chain alliance to meet diversified and personalized needs of consumers for car and enhance market competitiveness. However, the lack of trust mechanism between enterprises in the automobile supply chain, the low degree of informatization of small and medium-sized enterprises and the financing difficulties of small and medium-sized enterprises on the chain are prominent problems on the supply chain of Liuzhou, which hinder the sustainable development of Liuzhou automobile supply chain. Therefore, based on the analysis of Liuzhou automobile supply chain management status, this paper puts forward some reasonable Suggestions and countermeasures for it's realization for transformation and upgrading.

## 2. Current situation of Liuzhou automobile supply chain management

### 2.1. Overview of Liuzhou automobile industry

As the largest industrial city in Guangxi, Liuzhou is the national automobile parts production base, the national automobile precise parts production base and one of the seven national automobile industry demonstration bases. It has four automobile production enterprises, Dongfeng, Baojun and other automobile brands enjoy a good reputation in China. Automobile industry is the first pillar industry in Liuzhou.

## **2.2. Overall situation of Liuzhou automobile supply chain**

### *2.2.1 The situation of enterprises of the vehicle*

At present, Liuzhou has 3 commercial vehicle manufacturing enterprises and 4 special vehicle manufacturing enterprises. Among them, SAIC-GM-Wuling Company and Dongfeng Liuzhou Motor Company are the leading and core enterprises.

**SAIC-GM-Wuling Company:** SAIC-GM-Wuling Company founded in 2002. The Shanghai automotive group, GM Company and Guangxi automotive Group together to form the large-scale sino-foreign joint venture automobile enterprise, the company currently has Liuzhou Hexi headquarters base, Liuzhou Baojun base, Qingdao branch and Chongqing branch four manufacturing base in domestic.

**Dongfeng Liuzhou Motor Company:** Dongfeng Liuzhou Motor Company is founded in 1954, respectively, it have machining base, base for commercial vehicles, passenger cars, covers an area of 1.013 million square meters, the total assets of 7 billion yuan, the main production are "Dongfeng Lapras", "East Wind Bully Dragon", "Dongfeng" Popular "and" Dongfeng Dragon ", a total of more than 200 varieties of heavy, medium and light commercial vehicles and MPV, branding and sales are among the best in the field of domestic commercial vehicle and passenger car.

### *2.2.2. Upstream supply chain*

Liuzhou is made up more than five hundred auto parts production enterprises now, parts production enterprises above designated size by more than two hundred, the auto parts industry cluster has formed a relatively complete. As auto industry's rapid development, produced the automotive group are produced, like Guangxi Automobile group, Tenglong auto parts and so on, and introduced Saic auto transmission, Lear chongqing changan, Hangsheng electronics, Ling class tyres and other a large number of outstanding automobile enterprise to investment in Liuzhou to establish production bases, has formed the basic integrity of a complete system of the micro auto parts and engine, transmission, shock absorber, air conditioning, interior parts, stamping weldments and other parts of the batch production ability at present.

### *2.2.3. Downstream dealers*

From the perspective of the downstream of the automobile supply chain, Liuzhou automobile core enterprises have established a complete and mature sales channel in China, with automobile dealers in all major regions in China and the sales network basically covering the domestic market. SAIC-GM-Wuling Company has established the largest automobile sales network in China. It's have 2,800 distribution stores and 2,800 after-sales service outlets in 29 provinces and autonomous regions. Dongfeng Liuzhou Motor Company also has a relatively complete dealer network, with about 500 dealers in China.

## **3. Main problems in Liuzhou automobile supply chain management**

### **3.1. Lack of trust mechanism and low degree of supply chain coordination**

The production process of automobile products is complex, thousands of parts are needed, so the automobile supply chain involves many enterprises. The related enterprises in the supply chain will have the demand for information interaction and sharing information due to their business contacts. However, each firm in the supply chain alliance is an independent business entity, which will be affected by time, cost, service and other factors. The interest demands of each entity are not completely consistent. At present, there is an obvious information island between the subjects in the automobile supply chain in Liuzhou. The transaction information generated in the supply chain is independent and stored in the enterprise. The information sharing degree is low and the interaction speed is slow<sup>[2]</sup>.

### **3.2. The informatization degree of small and medium-sized parts enterprises in the supply chain is not high**

At present, in Liuzhou automobile supply chain, the core manufacturing enterprise have advanced, reasonable and perfect management system, information technology utilization degree and

intelligent level are higher, but many in the supply chain upstream and downstream suppliers, distributors, due to operating on a smaller scale, financial strength is weak, the personnel quality is not high, the management information system using less, some enterprises are still using manual processing information in their daily management, the efficiency of management is lowly, eventually reduce the response speed of the whole supply chain.

### **3.3. Financing difficulties for small and medium-sized parts enterprises in the automotive supply chain**

The core enterprises of the supply chain are large in scale and stronger in strength, so it is easier for them to get financial support when they encounter difficulties in capital turnover. The upstream and downstream enterprises in the supply chain are nervous because the capital is occupied by the core customers lead to have more financing demand. However, due to its small scale, weak anti-risk ability, insufficient credit level and narrow financing channels, it mainly relies on the credit endorsement of core enterprises for financing<sup>[3]</sup>.

## **4. Countermeasures for transformation and upgrading of Liuzhou automobile supply chain**

### **4.1. The Internet of Things, Block Chain and other technologies are used to build an information exchange platform for automobile supply chain and improve the information communication mechanism between enterprises.**

Efficient information flow between the upstream and downstream of automobile supply chain is an important means to improve the competitiveness of supply chain. The emergence of new technologies such as big data, cloud computing, Internet of things, artificial intelligence and block chain provided a new opportunities for the promotion of information communication among various trading subjects in the automobile supply chain and the enhancement of trust between enterprises. As the underlying technology of Bitcoin, block chain technology is a decentralized and highly trusted distributed database ledger technology. The network nodes can directly conduct transactions point-to-point, reach a consensus on the bookkeeping right of transaction data within a period of time, store independently and maintain collectively<sup>[4]</sup>. Build the automotive supply chain based on the technology of Internet of things, block chain automobile supply chain information platform, make the automobile suppliers, manufacturers, distributors and consumers, financial institutions, government departments are connected effectively, the information that produced at the exchange between each enterprise on the supplier chain after being stamped with a timestamp will be stored in the form of blocks that are record on the information platform truly and completely. The data are distributed storage, collective maintenance, open and transparent, tamper-resistant to guarantee the authenticity and reliability of trading information, improve the transparency of supply chain information and strengthen the trust between enterprises in supply chain car<sup>[5]</sup>.

### **4.2. Core automobile manufacturers drive the intelligent development of automobile supply chain industry.**

Core enterprise on automotive supply chain must attach importance to the internal management of small and medium-sized suppliers on the supply chain, guidance and training the informationization, intellectualized of small and medium-sized suppliers, driving auto parts enterprises suppliers realize intellectualization and informatization, promoting transformation and upgrading of automobile supply chain "smart", and promote Liuzhou automobile supply chain development efficiency, strengthen the competitiveness of Liuzhou automobile supply chain.

### **4.3. Completing relevant government policies.**

The government should establish and perfect relevant laws and regulations and encourage establish some venture capital and private capital to establish industrial investment fund and supporting private enterprises make full use of the new financial instruments for financing, expanding financing channels of small and medium-sized enterprises to alleviate the financing difficulties of parts, small and medium enterprises, promote the development of small and medium parts

enterprises.

#### **4.4. Establish high-level intelligent talent cultivation mechanism for intelligent manufacturing.**

High-level intelligent talents are the cornerstone and guarantee for the smooth realization of the transformation that "intelligent manufacturing" at automobile supply chain. Liuzhou can through the following two ways to cultivate and introduce High-level intelligent talents . First, The colleges and universities in Liuzhou can set up relevant courses such as block chain according to actual needs to cultivate professionals in block chain. Second, Competitive salary system should be developed to attract suitable high-level intelligent talents in the enterprise and staff training should be strengthened to encourage employees to continuously acquire cutting-edge technological knowledge of the automobile industry.

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