

SUPPLY CHAIN ISSUES IN CHINESE AUTOMOTIVE COMPONENTS INDUSTRY

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ABSTRACT

The automotive component suppliers play a critical role in the industry because the majority of the value-adds are created by the suppliers. Outsourcing is a prevalent strategy for automakers and automotive component manufactures and China is the current hotspot. However the Chinese automotive components industry is far from perfect. This paper examines various challenging issues in current Chinese Automotive component supply chains to help companies develop a viable strategy.

INTRODUCTION

In the automotive industry, over seventy percent of a product's total value is created by suppliers (Leenders, et. al., 2002). Automotive makers rely on suppliers to achieve major reductions in product cost and created the market competitiveness (Afuah, 2003). A recent trend in the automotive industry, both within the automaker and components manufacturers, is to expand the supply and market basis. One of the countries that have attracted significant foreign direct investment is China.

Chinese automotive industry grew approximately 40 percent in 2005. This trend is expected to continue into the future. Industry experts expect around a 10 percent annual automotive market expansion for at least two decades. China is expected to become the world's second or third largest vehicle market by 2015. With the lure of available and abundant labor source and market potential, nowadays most major automobile manufactures are jumping on the Chinese bandwagon to establish business in China. However there are many obstacles to overcome in order to succeed in the Chinese business environment. This paper examines current Chinese automotive components supply chains and the challenges in the changing automotive industry.

CURRENT SUPPLY CHAIN CHALLENGES

Automotive component manufactures face many supply chain challenges in China. The challenges include fragmented industry structure, low productivities, high barriers to entry, poor quality, and inefficient logistics and distribution systems.

Industry Structure and Productivity

There are too many automakers in China. At the end of 2004, there were 33 large factories, among 120 in total, which produced passenger vehicles in China. Each factory averaged a yearly output of approximately 70,000 units per manufacturer. For comparison, large comparable US automaker plants average 300,000 - 400,000 units per year (Sinclair, 2005). This shows the significant inefficiency problem in China's automotive manufacturing industry. These inefficiencies also cross over into the components industry. For example, within China, dozens of auto parts manufacturers produce the same components. China contains 27 factories that make shock absorbers and 23 factories that produce steering gears. Along with the duplicate efforts, many component suppliers in China are operating below capacity, making them unable to achieve large economies of scale and cost benefits.

Companies within China often realize that the supply chain lacks a clear hierarchy. This lack of hierarchy is forcing automakers to work with both Tier 1 and Tier 2 suppliers, which has largely increased automaker's supplier basis. Extra time and cost are spent to manage the additional supplier relationships. Another challenge is that although local content requirements have been abolished protectionism still persists. Currently 70% of Chinese automotive component suppliers remain fully or partially owned by Chinese automakers (Sinclair, 2005). This unofficial protectionism has led to local or subsidiary suppliers obtaining orders even though they offer inferior parts at higher prices. Chinese partners will often use favoritism to select inefficient local Chinese suppliers that are members of their group rather than an efficient supplier outside of the group.

However, recent large increase in foreign investment has quickly improved Chinese manufacturers' progress in technological know-how and capabilities (Sinclair, 2005). For example, in 2004 and 2005 Automakers and component manufacturers committed to over \$10 billion in new projects in China (Sinclair, 2005). The capabilities of new factories are much better. The infrastructure of new factories in China is about equivalent with that of the US; typically in new factories the latest machinery and equipment is installed.

Barriers to Entry

One difficulty that companies are experiencing as they enter China is the rules and regulations imposed by the World Trade Organization, the Chinese governments (both federal and principality) as well as the US (Kover, 2005). Regardless of the size and experience, all companies face the unexpected regulatory risk, political risk, and market risk. For example, China may work around WTO rules to maintain barriers against imports by erecting WTO-compatible non-tariff barriers, such as licensing, health, technical, and packaging standards. China recently released a draft regulation that would require "one license, one product" dealership licenses in the automotive sector. These would prevent newcomers from using existing distribution channels and give local manufacturers more time to prepare for direct competition (Bolton, 2004). Another important risk is regulatory fragmentation. Different logistics service components in Chinese distribution and logistics industry has been regarded as distinct subsectors and they are governed by various government departments. Companies must acquire separate licenses through various governing bodies to undertake different activities. Despite central government efforts to coordinate, this shared jurisdiction system is unlikely to disappear quickly (Bolton, 2004).

In China, personal relationships play a large factor in the Chinese supply chain. Many different departments in a company are involved with sourcing and supplier selection. This means that an automotive component supplier must establish multiple personal relationships with each automaker they supply. In China, the sourcing and supplier selection process is resource intensive, and often involves underhanded dealing. Within China corruption is still rampant, including bribes and preferential treatment. Companies need to be aware and positioned to avoid such underhanded dealings because corruption can hamper business development, especially for foreign companies (Sinclair, 2005).

Quality

China's automotive components industry faces many quality related challenges. First, China lacks access to high-quality domestic raw materials. Many companies are being forced to import raw materials at an increased cost to meet quality requirements. Customs and taxes on imported parts and materials average around 17% and each of China's 27 provinces charge different tariff rates (Ricciuti, 2004). China's information technology infrastructure has not been modernized yet, which makes parts

tracking, configuration management, inventory updating and other quality tracking difficult. Many Chinese companies still lack the crucial engineering know-how needed to comply with federal vehicle safety standards (Knupfer and Mercer, 2005). There is also a lack of domestic Chinese suppliers with modern manufacturing skills (Sinclair, 2005). During an industry slow down in 2003-2004 the Chinese auto parts industry was significantly affected to their weaknesses and inefficiencies (Kover, 2005).

Currently, the majority of the components exported from China are being used for aftermarket parts. An estimated 80 percent of Chinese auto parts exports to U.S. are used to repair cars already on the road, only 20 percent of them go to factories that assemble new cars (Knupfer and Mercer, 2005). Producing aftermarket auto parts is different from producing parts for production. There are differences in the quality and engineering standards between aftermarket and production parts (Webb, 2005). However, China's quality problems are on a steady decline as more and more foreign investment and know-how are pumped into the Chinese operations. Over the next few years this is likely to change as China's automotive components quality is improved through the use of better factories, machines, processes and training.

Logistics and Distribution System

Another inefficient area in China is their logistics and distribution system. Morgan Stanley estimates that, in 2001, logistics spending in China amounted to one-fifth of the nation's GDP – twice the level spent on logistics in the United States. According to a December 2001 Economist Intelligence Unit report, 90 percent of an average Chinese manufacturer's time is spent on logistics, while 10 percent is spent on manufacturing (Bolton, 2004). Although China's transportation structure is starting to improve it still has a long way to go. Companies experience high transportation costs. For example the cost of shipping goods 900 miles from Chengdu to Shanghai matches the cost of shipping from Shanghai to Long Beach, CA (Webb, 2004).

A major reason for the inefficiency is China's inadequate transportation network. China has very few international airports so cargo handling is difficult. Rail transportation is currently the cheapest and easiest mode of transportation, but capacity shortages occur often and the services are focused on passenger and military commodities (Ricciuti, 2004).

China's logistics and distribution companies are fragmented throughout China like the automotive component manufacturers. For examples, there are only 18,000 licensed logistics professionals that reside in Mainland China, as opposed to 500,000 in the US (Kover, 2005). There are 5.4 millions trucks registered to more than two million trucking providers (Easton, 2003). There is no national custom broker (Ricciuti, 2004). At present, no logistics provider has more than a two percent share of the China market and no one offers nationwide distribution services (Bolton, 2004).

CONCLUSION

In automotive industry where value added by suppliers contributes significantly to the final product, the competitiveness of the value chain depends upon supplier performance in cost, quality, and on-time delivery (Quesada, et. al., 2006). The Chinese automotive components industry is very dynamic and it provides a great opportunity for foreign companies that are willing to do their research. Gathering the proper information and data can mean the difference between success and failure in the Chinese market. Companies have to realize that there are many options available to improve their chances of long-term success in the rapid changing global automotive industry.