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### **Globalization of the Automotive Industry: Supplier Challenges**

Even before the Asian monetary crash of '97, automotive manufacturers and their suppliers were designing and implementing global strategies for their companies. But since the opening of global markets triggered by the WTO, manufacturers have sped up the process of globalizing their companies. Their suppliers followed suit, and today 42 percent of the sales of the top 13 global suppliers are outside their home region.<sup>1</sup> Our research over the past 15 years at the Automotive Analysis Division of the UM Transportation Research Institute has followed this development, and today we see globalization causing two major problems for automotive suppliers:

- Our recent supplier globalization research found that as manufacturers globalize their operations, they expect their suppliers to follow them wherever they build a plant.<sup>2</sup> This makes it difficult for suppliers to develop their own global strategies because they are constantly building plants wherever their customers demand, instead of strategically locating plants globally to support a variety of global customers.
- Manufacturers continue to demand significant price reductions on the components or systems the suppliers develop based on “global pricing,” where the benchmark price for a component becomes the lowest price the manufacturer purchasing departments can find anywhere in the world. Manufacturers strongly suggest that suppliers consider building their components in these low cost countries in order to match these prices. But what these prices do not include are significant export duties and transportation, warehousing, and obsolescence costs that suppliers must absorb. Not to mention the cost of training a completely new workforce, both labor and management, and integrating them into the company’s global systems. These are important challenges that some suppliers are able to overcome, while others find overwhelming.

These challenges form the core of business challenges suppliers face as they move to countries such as China.

### **The EffectsChina Effect**

In our recent study of the automotive industry in China we discussed how the previous five year plan and the automotive industry policy focused on the formation of joint ventures between Chinese and foreign automotive manufacturers and suppliers in order to develop knowledge and technology transfer opportunities.<sup>3</sup> Foreign companies, fearing they will create their next global competitors, have resisted sharing core technology and product development/R&D processes with their Chinese partners. The

Chinese are very aware of this situation as shown in Figure 1 that measures how successful their collaboration has been with their foreign partners. In order to remedy this situation, the Chinese auto experts in our study report that the government and Chinese companies are using four different ways of reaching their desired goal of Chinese innovation: They will

- buy companies that already have the expertise and learn from them.
- hire engineering service firms to help them design and teach their local engineers the product development and new technology development processes.
- attempt co-operative development of non-competing, completely new products with their foreign partners. (Rick Waggoner of GM suggested this in the Spring of '05)
- collaborate with major global suppliers who will supply crucial components and systems for their vehicles.

The 11<sup>th</sup> Five Year Plan tries to directly address this problem by naming Chinese innovation as one of key areas where the government will try to provide support. The Chinese do not seem to be focused on internal expansion of the industrial sector, but rather see structural upgrading as the goal for the next five years. They see 5 major supporting mechanisms to support this goal, many of which have a direct impact on global suppliers:

- accelerating establishment of a technological innovative system that takes enterprise as the mainstay and market as the guide and features the integration of production, emulation and research.
- improving the market environment for technical innovation.
- implementing policies related to finance, taxation, banking and government procurement for supporting independent innovation, and perfecting an incentive mechanism for independent innovation.
- making proper use of global resources of science and technology.
- strengthening protection of intellectual property rights (IPR).<sup>4</sup>

The 11<sup>th</sup> Five Year Plan also acknowledges the need for re-adjusting the government's stance on imports and supports its own manufacturers and suppliers in "going global." The Plan calls for

- accelerating the change of the trading growth pattern, actively developing foreign trade, optimizing the mix of import and export commodities, and striving to bring about a basic balance of imports and exports
- continuing an active and efficient use of foreign capital, focusing efforts on improving the quality of the utilization of foreign capital and strengthening guidance to foreign-funded industries and regions
- supporting qualified enterprises in "going global" and investing abroad in accordance with common international practices.<sup>5</sup>

China has just this week signaled its willingness to negotiate with the EU, U.S., and Canada over Beijing's import policies. The EU, U.S., and Canada called on the World Trade Organization to pressure China to open up its \$US19bn automotive components import market in March this year. From the export perspective, according to China's Ministry of Commerce, auto parts exports last year reached \$8.9 billion, an increase of 22.8 percent from 2004. The figure accounts for 82 percent of China's total volume of auto products. Foreign enterprises and joint ventures make up 56.4 percent of exports, still ranking No. 1 and No. 2 respectively, followed by private enterprises, state-owned enterprises and collective enterprises.<sup>6</sup>

This opening up of the market for both imports and exports may allow suppliers to supply the Chinese market from other locations, but our studies report that suppliers will follow their manufacturers to whatever countries they demand.<sup>7</sup> According to a recent China Auto Supplier Survey, Chinese domestic firms plan to focus on Southeast Asia for export development, while foreign joint ventures focus on Southeast Asia, Japan, and the United States.<sup>8</sup> One advantage suppliers have over manufacturers in China is that there are fewer demands for them to develop joint ventures with Chinese firms. This incents them to export their components because they will not have to share the profits with a joint venture partner, as manufacturers would have to do.

### **Counterfeiting Auto Parts**

The 11<sup>th</sup> Five Year Plan makes a point of the need to strengthen intellectual property rights, and this is a first step to actually enforcing these laws. What is interesting is that the focus of the Plan on Chinese innovation plays directly into IP enforcement because as soon as the Chinese innovate and create their own intellectual property, the sooner they will begin promoting and enforcing laws to protect it.

In the auto industry most counterfeiting of auto parts takes place in aftermarket parts for used vehicles. But it not only affects the profits of the suppliers whose parts are being copied, it also affects the safety of consumers because some of the components are made to similar but not exactly the same specifications and with similar but not the same materials. For new vehicles, because manufacturers have close relationships with their suppliers, few counterfeit components would be able to make it onto a new vehicle.

There are a couple of ways to deal with counterfeiting. One, the Chinese government could make a national example by severely penalizing a major counterfeiter. This would send the signal that these actions are no longer tolerated. Two, the U.S. can also make an example of companies that knowingly purchase and distribute counterfeit components by making a public display of their prosecution.

### **Chinese Export Capacity**

Manufacturers and suppliers face very different challenges in terms of Chinese export capacity. From the supplier side, Chinese competition is primarily on less sophisticated components, though this will change as they become more highly developed companies with stronger R&D departments. So, much of the competition today is in the Tier 2 supply base that manufactures parts and components for complete systems. Capacity will not be an issue when China, India, and Russia develop as auto economies (though the battle over oil will be intense when this comes to pass). In the meantime, competition will force some suppliers, either Chinese or foreign, out of business rather than add to the capacity because there are only so many components that need to be made today.

From the manufacturer side, our Chinese experts report that export capacity will not affect worldwide sales for the next five years or so. But as these manufacturers become more sophisticated and capable of competing in developed markets, they may add to the overcapacity of cars and trucks, until China, India, and Russia expand as automotive economies.

### **Preserving Jobs in the Industrial Base**

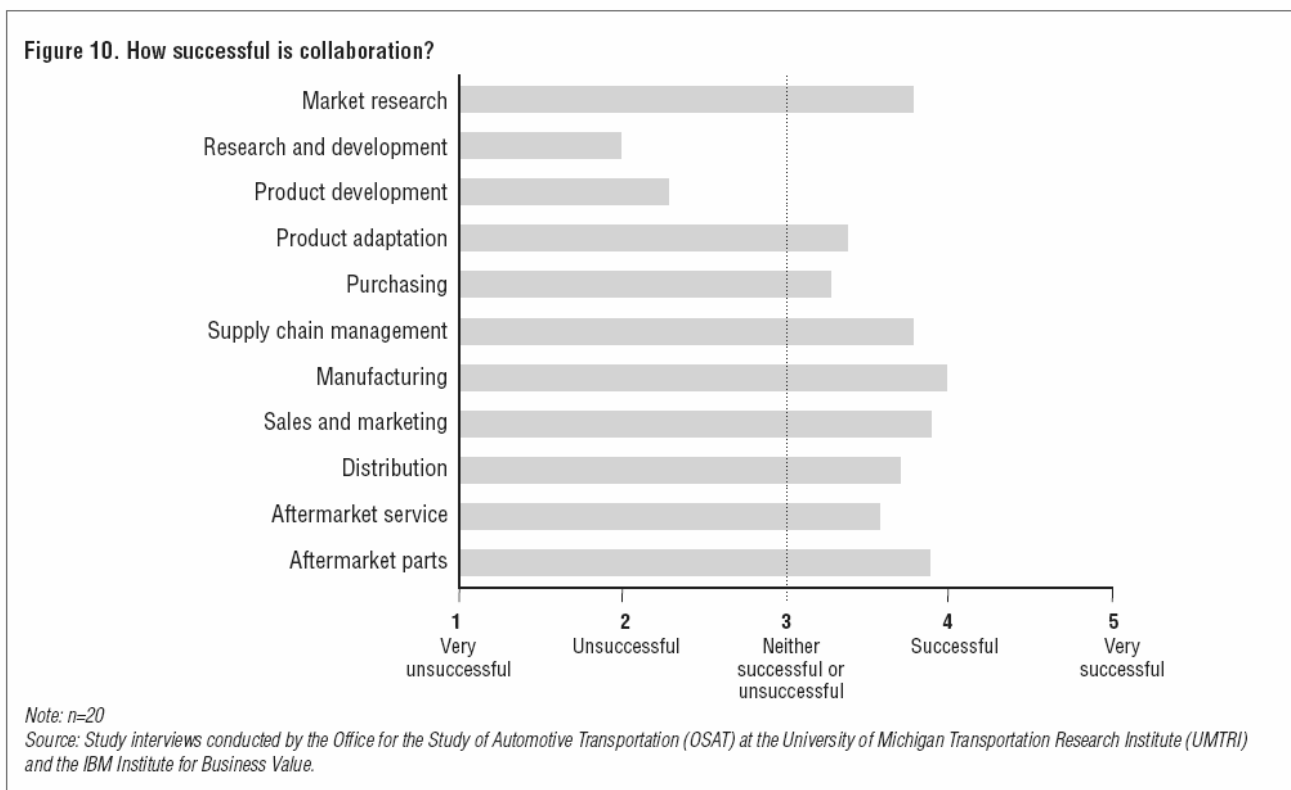
Re-directing workers from automotive jobs today is difficult to do because so many plants are facing closure. One reason this is occurring is because manufacturers and suppliers have become so skilled in replicating their manufacturing processes anywhere in the world that transferring production from one country to another is not as difficult as it used to be. It seems that in the U.S. only highly skilled jobs or plants that need to be near a manufacturing facility for just in time delivery are safe.

One of our recent studies showed how the government can invest in these types of jobs in the area of advanced powertrains.<sup>9</sup> It showed how investment tax credits by the government to manufacturers and suppliers would allow them to transition from internal combustion engines to hybrid and advanced diesel engines in their current factories and keep these jobs from being performed outside the U.S. By developing more high tech jobs, the U.S. can keep ahead of the technology curve and keep jobs in the U.S. The catch is that once these processes become standardized, they too become targets for foreign competition. Only by constantly developing new, high technology components or processes does it seem that manufacturing jobs can remain in the U.S.

**Conclusion**

China represents both a threat and an opportunity for U.S. workers and business interests, respectively. Workers are threatened by the transfer of manufacturing jobs outside of the U.S. (this includes Mexico and Canada, as well), while business sees the market opportunities that countries such as China represent. The Chinese in their 11<sup>th</sup> Five Year Plan are trying to move up the evolutionary scale of manufacturing. They state that they want to develop the innovation capability of their workers and companies and move away from low wage manufacturing. This may become more of a goal than an actuality within the next five years, but it sends a message to the world where the government is aiming the economy.

Figure 1



<sup>1</sup> Belzowski, B.M., Flynn, M.S., Senter, R., Sims, M. Hale, J., Kenney, K., Nyce, S., Schieber, S., Ullom, P. *Workforce Planning for a Global Automotive Economy*. University of Michigan Transportation Research Institute, Automotive Analysis Division. Sponsor: Watson Wyatt Worldwide. Report No. UMTRI 2006-8.

<sup>2</sup> Ibid.

<sup>3</sup> Belzowski, B.M., Zhao, J., Ban, L., Gumbrich, S., 2005, *Inside China: The Chinese View Their Automotive Future*. University of Michigan Transportation Research Institute, Office for the Study of Automotive Transportation. Sponsor: IBM Institute for Business Value. Report No. UMTRI 2005-36.

<sup>4</sup> China Internet Information Center: China Mapping Out The 11<sup>th</sup> Five Year Development Guidelines, New Thoughts and Moves of "11th Five-Year Guidelines" Viewed from 11 Key Words (1)

<http://www.china.org.cn/english/features/guideline/157524.htm>.

<sup>5</sup> China Internet Information Center: China Mapping Out The 11<sup>th</sup> Five Year Development Guidelines, New Thoughts and Moves of "11th Five-Year Guidelines" Viewed from 11 Key Words (2)

<http://www.china.org.cn/english/features/guideline/157525.htm>.

<sup>6</sup> "WTO: China hints it is ready to negotiate over car parts row," Just-Auto.com, <http://www.just-auto.com/article.aspx?ID=88353&lk=dm>.

<sup>7</sup> Belzowski, B.M., Flynn, M.S., Senter, R., Sims, M. Hale, J., Kenney, K., Nyce, S., Schieber, S., Ullom, P. *Workforce Planning for a Global Automotive Economy*. University of Michigan Transportation Research Institute, Automotive Analysis Division. Sponsor: Watson Wyatt Worldwide. Report No. UMTRI 2006-8.

<sup>8</sup> *China auto suppliers survey*. Economist Corporate Network Study, April, 2004.

<sup>9</sup> Hammett, P., Flynn M.S., Sims, M.K. *Fuel-saving Technologies and Facility Conversion: Costs, Benefits, and Incentives*, Office for the Study of Automotive Transportation, University of Michigan Transportation Research Institute, November 2004.