

The North American Automotive Industry: Geographic Restructuring, Supplier/OEM Relations, and Capacity Issues are Changing the Site Selection Dynamic

By Ed McCallum

Overview of US Automotive Industry



The US Automotive industry has experienced significant restructuring over the past several decades. Market share for the Big Three (General Motors, Ford and Chrysler - now a division of Daimler) has dropped from an impressive 95% in 1986 down to 60.2% in 2003 and will most likely continue along this path. Although both Ford and General Motors are still two of the dominant car makers on the planet (see chart below), their market share in the US has diminished considerably. The Japanese and German entrance into the US market place has not only affected market share, it has also changed the way vehicles are manufactured. It can be argued that the entire relationship between the customer and the manufacturer as been redefined as a result. Innovation in design on common platforms is only surpassed by the variety of options offered by OEM's . It is estimated that 16 to 18 percent of the world's vehicles currently come from similar platforms. The number could rise to 40 percent by 2006.

Probably the one question foremost on the minds of many is, "How many more assembly plants can be expected in the near term." Two have already stated publicly that they are interested in the US market in the near term. Predicting the number of others that may occur is simple math. Experts tend to agree that overall vehicle sales growth over the next 10 years, at least in the US, will be relatively low. The projected increase, however, in market share of the Japanese and European transplants will require additional capacity on their part and a renewed effort to increase efficiency and reduce costs on the part of the Big Three. One thing is for certain. There are many changes occurring in the industry that have yet to play out.

Restructuring

From a geographic perspective, the automotive industry has changed dramatically. There is a considerable amount of speculation that the migration away from the Detroit, MI is due to a combination of factors which have included logistics costs, labor cost, workforce inflexibility and market share redistribution as a result of demographic changes in disposable income. There is no doubt that these factors have been an important impetus to this migration – especially during market entry as was the case of Honda, Toyota and Nissan. Little attention, however, has been paid to an almost obsessive drive by the transplants to divorce themselves from Detroit's influence. One needs only to look at the last 10 years to see the demands that each manufacturer has placed on its host state to continue as a partner in the pursuit of not only workforce development and training, but

also product innovation and manufacturing/supply chain excellence. These companies have realized that their success, and hopefully market dominance, will be predicated on being market innovators and not market followers. Unfortunately, the suppliers are caught in the middle. They are forced to drive down costs while being immersed further and further into the engineering and design function of the assembler which is not a cheap proposition over time.

Looking back at recent history, as early as the 1970's the industry spanned an east-west corridor that extended from Chicago, IL to New York, NY. Detroit was the automotive center of the world for engineering, design and to a large degree manufacturing. In recent decades, however, the industry has shifted to a more north-south orientation. It started to move first to Ohio, then to Tennessee and Kentucky, then South Carolina, Georgia and on to Alabama, Mississippi, Louisiana, and eventually to Texas. And of course, Mexico has steadily added production capacity over this period. The creation of NAFTA lowered tariffs, opened access to low-cost production locations and significantly eased logistics restrictions associated with imports. This would lead one to believe that that the major factors driving this movement were cost related, and from a market entry standpoint to the US, this author would agree. Upon closer inspection, however, it is our opinion that the driving factors now are more geared toward independence. The desire for independence is two-fold. First and foremost is to stay from the influences in the manufacturing process and a workforce governed by inflexible labor rules and legacy labor costs. Ultimately, however, automotive manufacturing companies are more and more becoming integrators of customer driven product design, component assembly and marketing. The consolidation of the suppliers in the industry will in time make component parts and sub-assemblies a commodity. The value offering, from the automotive manufacturer's perspective, will be their expertise in bringing a unique product to market faster than the competition.² Product life cycles for the automotive industry are becoming, which has resulted in the assembler placing constant pressure on the suppliers to reduce costs while delivering higher and higher levels of quality.

At present, there are 11 manufacturers of cars and light trucks in the US – BMW, Daimler Chrysler, Ford, General Motors, Honda, Isuzu, Mazda, Mitsubishi Nissan, Subaru and Toyota. Between them they manufactured 11.8 million units in 2003¹ in the US. The Big 3 plants declined 6.0% from 2002 to 2003 while Japanese and German output rose 10.3% and 18.3% respectively. The big three share of production fell to 57%, the first time ever below 60%, while the transplants exceeded 40% for the first time. This has been a consistent trend in the US and will most likely continue in the foreseeable future.

Redefinition of Supplier and OEM Relationship

Quality products are constantly changing in response to customer preferences and offerings from competitors. The OEMs have been shifting more engineering and manufacturing responsibilities as well as risk up the supply chain in order to adapt to the new dynamics present in the industry. First and second tier suppliers are now assuming a greater amount of research and development activities to develop more sophisticated components and subassemblies at the insistence of the OEM. In contrast, the auto manufacturing OEM is concentrating their efforts on designing vehicles, managing programs, handling the majority of vehicular assembly and marketing the brands. Suppliers are becoming involved much earlier in new product development and as a result have increased their value added content to the assembler. (The implications that this will have on the supplier network and there corresponding locations will be discussed in part two of this article.)

At the same time, the assemblers are also asking the suppliers to reduce costs, which is indeed difficult when considering the increased cost of capital required for research and

development efforts as well as production capacity bricks and mortar. This increased pressure on the suppliers will most likely result in consolidation of the stronger suppliers and the elimination of the weaker one – through either acquisitions or business failures. It is estimated that of the 800 major suppliers present in the year 2000, fewer than 100 will be left by 2010. Tower Automotive's recent request for bankruptcy protection is evidence of this trend. Not only will there be fewer and fewer suppliers, the amount of work that has been outsourced will continue to increase. Twenty years ago, only 20% of work was outsourced compared to 80.0% today. The supplier network will continue to change dramatically with the following forces at work:

- Continuous demand for cost reductions
- Increased responsibilities for value added
- Greater role in research, development and design
- Bundling of products and inclusion of services
- Movement away from piece parts toward components and systems
- Increased requirements for material replenishment
- Supplier Managed Inventory
- Sequencing of deliveries
- Pressure to consider outsourcing globally to meet cost reduction targets while maintaining quality demands

Capacity Issues Globally

The mosaic of ownership connections between the automotive assemblers is more complex than ever. GM now owns Saab and owns significant interests in Isuzu, Subaru and Suzuki. Ford now owns 100% of Jaguar, Rover and Volvo and a significant share of Mazda. Chrysler was acquired by Mercedes creating Daimler Chrysler, which has ownership interests in both Mitsubishi and Hyundai. It has been argued that this intricate maze of ownership, acquisitions, joint ventures and alliances is actually an attempt by the world players to extricate themselves from the glut of excess capacity that exists around the world. It is estimated that the amount of excess capacity that exists around the world ranges as high as 20 million units – which is the equivalent of 80 assembly plants. Whether this will remain this way is not certain. What is for certain, however, is that the capacity to exist around the globe exists in abundance, with the possible exception of capacity for existing transplants in the North American market and new foreign competitors vying for a piece of the market.

The competitive landscape between the Big 3 and the US transplants show markedly different sources of profitability. It is commonly accepted that the greatest source of profitability for the Big 3 will be their ability to consolidate operations and close down inefficient operations in parallel with increased focus on negotiating reasonable if not less costly labor agreements with the UAW. The latter circumstance would be a truly novel event if it comes to pass; however, even the UAW is beginning to understand that external forces could continue to diminish their ranks. They may prove to be surprisingly more cooperative in the coming years.

Some analyst believe that by 2010 China will be the third largest market in the world behind the US and Japan. It has been suggested that by 2025, China could be the world's largest market for new motor vehicles. This could explain in part the reason that current excess capacity in Asia alone accounts for 8.3 million units per year.

Capacity Issues at Home

With each new automotive assembly plant announcement, there is increased anticipation for the recruitment of the next one. Based on the discussions in the previous paragraphs, it is apparent that the Big 3 will probably not build another automotive assembly plant in the US in the immediate future – except for capacity replacement in close proximity to existing facilities. Instead, consolidation into existing operations to increase capital utilization and improve efficiencies will be the most likely scenario. The problem is determining to what extent an incumbent facility can be considered a viable option for continued capital investment by the automotive company. Based on some of the factors we see beginning to affect the industry, we suggest that there is a considerable amount of influence that can be manifested.

In contrast to the Big 3, the transplants will continue to eat away at market share until additional capacity is required. If one assumes a modest growth rate in either production or sales of 1.0% per year then it is not unreasonable to assume that there will be between 5 to 7 automotive plants constructed in the next 10 years. Obviously, there will be a difference in the production capacity of each plant depending on which company decides to build the plant, but in general this is probably more accurate than not.

Estimated 10 Year Automotive Plant Demand

Where will the next automotive assembly plant locate? This is a difficult question to answer in light of the recent announcement of Toyota to San Antonio, TX which pushed the boundary considerably outside what most location experts would have projected. There do appear to be forces at work that should be considered:

- Redundant facilities (by the same company, in the same state) appear to be a pattern that has not, and most likely will not be repeated often
- An existing supplier network is more important than competing auto assemblers in the same state for some new market entry companies
- Access to port facilities uninterrupted by strikes is being scrutinized more than ever – particularly access via Mexico to the Pacific
- Tier 1 and 2 suppliers in Mexico are being brought more into play from both a geographic proximity and a quality production standpoint
- Competitive positioning in the market place may depend more on innovation and the ability to influence product life cycle considerations than the customary economic considerations
- Time is money, making a ready site the entry fee. A complete program to address workforce development issues, supply chain efficiency and a coordinated supply-chain mgt. program to address suppliers is the differentiator.

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