



Accelerating Towards a Revolution

Change in the Fast Lane

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Change in the Fast Lane

In September 2011, Ford unveiled its plug-in hybrid Evos concept car. The Evos development is being driven by Ford CEO Alan Mulally, an ex-Boeing engineer who introduced an array of digital innovations to the 757/767 cockpits. Not surprisingly, the Evos is stepping right into the future of automotive design.

The car is connected to the driver's personal cloud, customizing the drive experience and bringing unprecedented efficiency by choosing the right powertrain modes for every journey. The Evos combines the driver's work schedule, local traffic and weather conditions, adapts to the driver's personal habits, offers recommendations through the driver's social media network, has heart-rate monitoring seats, location-aware air quality sensors, filtration systems and an instrument panel that is situationally-aware, displaying only the necessary gauge information. Whatever happened to bumper trim, plush seats, power windows and monstrous engine capacity that are the traditional features for effective car sales?

The automotive industry is going through its biggest disruption in the last 40 years. Established assumptions in the business are taking a back seat. Ford is not alone in its quest to build tomorrow's car today. General Motors, Tata Motors, Honda, Nissan, Subaru, Mitsubishi, Toyota, Volkswagen, BMW and practically every leading car manufacturer is exploring the future of a troubled automotive business.

The technological change in the industry presents a major challenge for product planning and development, procurement and supply chain management, manufacturing, sales and marketing, after sales service and end-of-life recycling. Are auto manufacturers ready for the challenge as well as the opportunity to create vehicles that are more relevant to customers at price points that help grow markets?

The Development of New Detroit's

The dynamics of the automotive industry are changing, driven by consumers in new markets, the changing profiles of consumers in existing markets, the consciousness around green technologies, the development of alternate fuels, the growth of IT, emission norms and increasing regulatory pressure, new manufacturing geographies and dynamic business models. Car buyers in the two key emerging markets, China and India, along with Korea, Japan, Western Europe and the US, are redefining the business, creating a number of 'New Detroit's' across the globe. The difference is that the world does not want Detroit's large cars anymore. To meet emerging demand, the new cars are being engineered in geographies such as Europe and Asia. With major manufacturers wanting to get closer to their customers and liberal trade agreements enabling it, this trend is likely to continue.

The rapid consolidation taking place (10 global OEMs in China, India, Western Europe, Japan, Korea and the United States are responsible for 77% of production), the growth in niche players and the demand for customization are strong signs that automobile manufacturers must come to terms with the growing complexity of the business.

There may be no 'cure-all' response to the shifts taking place, but traditional automobile manufacturers may soon benefit from maintaining a tighter focus around design and integration, building on IP and extracting value from low-cost country sourcing. This is much the same model that the consumer electronics industry has evolved so successfully over the last decade.

Rear View Mirrors Won't Do

The changes sweeping the industry may suggest that current models are broken and will soon need an overhaul. The future will not belong to those who cut costs and focus on product quality alone; it will belong

to those who are able to align with the four key factors that are recalibrating the industry:

1. Changing consumer needs and demand - markets have shifted, new demographics want new vehicles
2. Technological advancements and multi-industry convergence - IT has become accessible and cheap and consumers want it in their vehicles
3. Regulatory compliance demands - the next five years will see the industry make its most important investments in this space.
4. Competitive landscape and business model changes - Detroit is no more the centre of the automotive universe; overcapacity is a reality; and outsourcing will become the norm.

The industry cannot afford to look into the rear view mirror to realign itself or make small incremental shifts to meet business goals. It must look ahead squarely into the future and reinvent itself. That's the only way customers will come back to showrooms.

Changing Consumer Needs and Demand

- **Change in consumption:** With the growing economic uncertainty, consumers have become cautious and value conscious. The demand in the small car segment with enhanced safety features is forecasted to grow until 2020. This is a high volume segment and will need to offer safety and technology features normally associated with premium brands. According to JD Powers, the small car market is predicted to reach 76.5 million units, up 6% from 2010. The growth may appear small, but it is the highest growth shown in the segment in the last 5 years. The largest growth came from markets in developing countries (51%) and is an indication of the shape of things to come.

- **Change in customer profiles:** In many of the major automobile markets like Japan and Western Europe, the maturing population is showing a higher intent to buy smaller vehicles that are ideal for congested cities. The caveat is that they want smart, user-friendly vehicles with an emphasis on safety features like skid control, telematics, blind spot mirrors etc for cities that have a higher density of cars.
- **Change in ownership models:** The concept of ownership is changing rapidly. Increasingly, consumers want "sharing", a wider model of car pooling that falls between outright ownership and rental to bring down total cost of ownership as well as overheads in terms of maintenance, managing regulatory requirements like emission norms and taxes. Services like AutoShare in Canada, Zipcar in the US, WhizzGo in the UK, Car2Go in Germany, and another 1,000-odd similar customer-driven services all over the world are forcing automobile companies to examine the new business model.
- **Going Green:** Consumers may not be willing to pay for the current green technology used by the automotive industry, but they are demanding greener vehicles. The development of alternate fuels such as biofuels, CNG, LPG, fuel cells, solar and electric powered vehicles are likely to accelerate this demand. By end 2016, says a JD Powers report, the market will be teeming with 159 hybrid and electric vehicles in the US alone.

Technological Advancements & Multi-industry Convergence

- **Telematics enabled services:** With the proliferation of wireless networks and mobile devices, consumers are moving to a 24x7 connected lifestyle. They want automatic crash notifications, remote vehicle diagnostics, traffic updates, Internet downloads, voice assisted GPS navigation, infotainment, satellite radio, pay-as-you-drive services, lost car recovery, charging billing for EVs. To sum up, consumers want Vehicle to Vehicle connectivity (V2V), Vehicle to Infrastructure connectivity (V2I) and Vehicle to Grid connectivity (V2G).

- **Using Big Data for Business Intelligence:** As the industry adopts a higher level of IT, the growth in real-time data from vehicle usage and vehicle location will create the need for analytics that will help manufacturers and the service industry take faster and smarter decisions. The generation of vehicle usage and location-based data can create entirely new businesses and bring together completely unrelated industries such as mobile application development, gadgets, communications and entertainment. It will also create new partnerships, for example with the medical device manufacturers such as pacemakers and other health services.

Regulatory Compliance Demands

- **Environmental regulations:** Tightening emissions norms are estimated to cost the OEM profit pool US\$ 29 billion until 2015. Average CO2 emission norms for new passenger cars at 120g CO2/ km will need manufacturers to significantly alter their approach to design and maintenance.
- **End-of-life (EOL) vehicle regulations:** The EOL target of 95% recovery with a minimum of 85% recycling from 2015 is going to place considerable stress on businesses that are not prepared for recovery, reuse, recycling and don't have a robust reverse logistics strategy.
- **Health & Safety Regulations:** Regulations such as the Registration, Evaluation, Authorization and restriction of Chemicals (REACH) to protect human health and Control of Substances Hazardous to Health (COSHH) to circumvent occupational hazards will demand a change in the design of products.
- **Highway Traffic Safety Monitoring:** The TREAD Act requires manufacturers and dealers to generate field reports on problem incidents such as fatalities and injuries mapped to car makes and models. The Act will need intensive technology to conveniently and accurately capture, manage and analyze the data.

Competitive Landscape and Business Model Changes

- **Mergers & Acquisitions:** New and evolving joint ventures are creating new business models and are responsible for the single-biggest structural change in the business. Key markets are shifting to new geos such as the EU, Japan, Korea, China and India. A JD Powers report titled India Automotive 2020: The Next Giant from Asia released in June 2011 says that India surpassed France, the United Kingdom and Italy to become the sixth-largest automotive market in the world in 2010, and is expected to become one of the three largest automotive markets in the world by 2020. The change in markets is unprecedented in the history of the industry and calls for a major change in the approach to business. The trend will lead to major consolidation in the business.
- **Changing Business Models:** Suppliers are moving up the value chain; even niche players like battery manufacturers are developing EVs. Low cost country sourcing from India, China and Russia is forcing new business models and is forcing OEMs to consider alternate business models and narrowed product portfolios and rationalization of variants to reduce manufacturing complexity.
- **After sales profitability:** With an increasing amount of electronics and IT in automobiles, dealers and traditional service and maintenance centers may not be competent to change systems, lowering profits from after-sales servicing. The question before manufacturers is how to protect servicing revenue. While solutions are evolving to the dilemma, the real thrust for manufacturers should be to secure bottomlines by lowering warranty costs as a percentage of sales, better inventory management, and improved parts profitability.
- **New territories:** As business becomes more competitive, manufacturers will have to enter new areas of business such as vehicle scrapping and used car sales segments to bolster revenues.



The Road Ahead

The four vectors of change call for tough measures to ensure survival, growth and to maintain competitive advantage. Superficially, it appears that adapting to a consumer-driven culture is the key. In fact, underlying the change is the profound impact of an uncertain economic climate and the rapid evolution of technology. The automotive industry will lean heavily on technological innovation to harvest the emerging opportunities.

The swifter businesses are forging partnerships with technology leaders like Wipro that have expertise in areas such as infotainment, value engineering, telematics, connectivity, mobility, IT for Green, remote vehicle diagnostics, cloud computing, analytics, emission control and reporting, warranty management and end-of-life process management. Wipro, with its automotive practice that cuts across the value chain, from product development to supply chain, from manufacturing and quality to sales, marketing and after sales service, is helping its partners do business better.

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