

Good News for Fundamental Change In the Domestic Automotive Industry

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Everyone knows that transforming the domestic automotive product portfolio to smaller, more fuel efficient vehicles needs to be done at warp speed. Yet despite their avowed willingness to change, the domestic OEMs are inhibited by an endemic cost-reduction culture at a time when they desperately need an innovative, value-enhancement culture led by hard-charging CEOs willing to fundamentally change the way their troops design and build cars and trucks. The question is: will they?

In a 2006 IBM study of 750 of the world's top CEOs, 65% planned to fundamentally change their companies by implementing new forms of innovation to drive growth despite the fact that only 20% recognized they had been successful in the past.

Two-thirds of the CEOs were looking beyond growth through new products and services and were increasingly focused on innovation in their business models, operational processes, and management behaviors as the key drivers of change. However, of the CEOs who stated that internal inhibitors were more significant than external hurdles only 55% were willing to take on their own corporate cultures by making innovation a CEO responsibility. Not surprisingly IBM reported that in Japan, China, Korea and Eastern Europe, 47% of CEOs take strong ownership of the innovation agenda versus only 20% in the United States.

To get the top leaders of GM, Ford and Chrysler to right their ships, which literally have been capsized by \$4 gas, will take an enormous effort at implementing fundamental changes in product realization that promote adaptability, innovation and interoperability far beyond that which exists today. Ford CEO Allan Mulally already is on the right track. Indeed, it would appear that a 1960s Apollo program-type effort is needed to return America's auto industry to its former leadership position of fifty years ago.

The road will not be easy, nor are the mathematics encouraging. This is not simply a one-for-one switch from selling a truck to selling a small car. Profitability analysis reveals the need to make five small-car sales to equal the profit from a single large truck sale.

Positive Fundamental Change will require:

- Taking a fresh look at how small cars are designed and manufactured
- Honestly appraising a corporation's adaptability and creativity, going beyond cost reduction approaches and implementing on-going innovation throughout the supply chain in the areas of product, manufacturing and management
- Profiting by designing and manufacturing products in close proximity to the customer anywhere in the world

Negative Fundamental Change will be identified by:

- Manipulating volumes by closing plants and adding shifts at others
- Small car design centers in Asia creating product for North American customers
- Continually exploiting the supply chain for short-term advantage
- Refusing to look outside for solutions

At no time during my 40-year automotive career have I observed this industry approaching such cataclysmic change as now. My background includes:

1. Chief Engineer of a domestic OEM small car program in the late 1970s that led to the Toyota joint venture (NUMMI). This led to strengthening relations with Isuzu and buying a percent of Suzuki
2. Participation in technology exchanges with Toyota, Suzuki and other Japanese providers
3. Chief Engineer for seven years of the full size truck line. This included leading the introduction of an all-new truck line in the late 1980's

4. Director of Engineering for the total midsize product line charged with implementing Lean Principles
5. Executive Vice President of a major Tier One supplier for three and one half years

I have continued to learn more about designing and manufacturing vehicles since departing the OEM ranks. I've found that Japanese and North American auto manufacturers each have created their own unique enterprise DNAs. Through evolution these DNAs have resulted in a set of large vehicle design and manufacturing traits, mental models, and characteristics for North American manufacturers and a similar set of small vehicle traits, mental models and characteristics for the Japanese.

The Japanese design (think "up" from small vehicles, Americans design (think) "down" from large vehicles. The profound importance of this fundamental difference in business models is that the Big Three will not be successful in moving from truck to small car manufacturers because of the unavoidable profit loss per vehicle – until they look at the Enabling, Business, Technical and Cultural considerations that are part of the proven Japanese DNA and adapt them creatively and innovatively to the domestic automotive culture. Simply renegotiating contracts, closing plants and moving people to different design areas will not work.

There are, however, new opportunities to restore auto manufacturing in America to full life and health. The adaptability and creativity needed to leapfrog Asian small car leaders requires adopting new knowledge, methodologies and technologies that are currently available but dormant. An opportunity not only at recovery but also for robust automotive industry health and well being in America is available if CEOs are willing to apply "Fundamental Changes" to the product realization process on an enterprise-wide basis.

Moving from a low-density producer, high-profit marketplace (trucks) to a high-density producer, low-profit marketplace (small cars) only intensifies the competition. This move opens discussion on other topics of consideration:

- Increased competition will demand more frequent change and increased model availability to attract customers
- Design complexity will move from ruggedness to sophistication
- More content packaged in less space means higher piece cost, more assembly time, and increased warranty risk
- More of an OEM's fleet will have to meet higher fuel economy standards
- Adaptability and innovation will eventually separate the winners and losers

The time for speechmaking and press releases about more layoffs and plant shutdowns hopefully is over. It's now time to initiate significant pilot projects with selective major suppliers, service providers and IT providers and use the new learnings, methodologies and technologies that are available to demonstrate the power of a new, fundamental approach to building cars and trucks.

It's time to think-out-of-the-box in terms of a knowledge-sharing, constantly expanding, open-architecture product realization infrastructure, also called a "Product Realization Operating System," that unites business, education and government. Imagine it led by State of Michigan supporters who accelerate adaptability and make innovation a natural way of life in our state. Visualize new programs across all industries that create product and manufacturing systems with global, mission-critical knowledge at the fingertips of value-adders! And why not start with an Apollo-type program on battery, bio-diesel, and hydrogen fuel technology leading the way? Add in a green component and stronger, lighter materials development too.

Together, Michigan industry leaders can identify multiple, integrated pilot projects and using available, innovative Internet-based processes:

- Initiate project action
- Rapidly test-market concepts
- "Fail fast and move on", or "validate and aggressively support"
- Organize venture capital and resources and get moving
- Manage explosive growth with technology

You'll be astounded at how rapidly this will expand once this new "eBay for Innovation" infrastructure is in place.

The knowledge, direction, and the experienced people to renew our auto industry are available, but only influential industry executives, government politicians and education leaders can provide the ears, minds and capital to make this happen.

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