The Future Auto World: Round or Flat?

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The Perfect Storm

Competent New Players: China, India, ...

Benefits

Auto Industry

Tools

Materials

Hyper Competition
Auto Industry of the Future

A World of

Vanishing Boundaries
Demographics

“Boomers go Boom”

- Consumer Behavior
- Socio / Political
- Health Care
- Skilled Workers
- World Issue
Auto Industry—Like Pro Football

Everyone is Fast and Hits Hard

Excellent Players-

♦ TAM’s – Traditional American Manufacturers
♦ NAM’s – New American Manufacturers
Competition

Relentless

Unforgiving
Domestic Manufacturers

Face $2,000 - $ 2,500

Cost Penalty
Domestic Industry

Difficult Times But Survivable

- GM
- Ford
- DaimlerChrysler
- Delphi
- Visteon
- Traditional Suppliers
Any Organization -

- Private or Public
- Stable Employment
- Old
- Defined Benefit
- Pension and/or Health Care

- Has a Problem -
Industry, Highly Unstable —

Not in Final Form
There is Good News & Bad News: We Have a Crisis
U.S. Automotive Industry
Capacity Utilization and Profits
1978 – 2005

Source: Federal Reserve, U.S.DOC/BEA
The Old Business Model is Broken
It’s Change or Die & Shrink to Grow
Auto Industry 2007

- Successful manufacturers and suppliers
- Strong market
- Great products
- But—not everyone made it
The Future —

It’s not what it used to be
Economic Contribution of the U.S. Automotive Industry

- Manufacturing
- Retail
Auto Manufacturing

Manufacturers . . . . 500,000 + jobs
Suppliers . . . . . . . 1,800,000 + jobs
R & D Spending . . . $18+ billion
Economic Contribution Per Job

Auto Mfr. $292,000
Average Job $ 73,500
Average Mfg. $120,000
Economic Multiplier

Auto Manufacturers – 7.5

New Vehicle Dealers – 2.5
Foundation for Excellence

- Smarter Industry
- Platform / Component Set Rationalization
- Faster, Better Product Development
- Manufacturing Flexibility
- Stronger Processes
- Discipline
- Supplier Competence
- Lean Everything
Market Share is Nice

Profits are Essential
Future Profits

- Price Increase
- Market Share
- Cost Reduction
Cost Reduction — Survival Issue

- Low Investment
- Subsystem Optimization
- Global Sourcing
- Flexible, Lean Manufacturing
- Fast Product Development
- High Volume Platforms and Component Sets
Old Business Model

Vertical Integration  Talk
Paper  Bureaucracy  Linear

Slow  Lean

Physical Prototypes  Control  Legalistic
Sequential  Individual  Regional

Job for Life  Kings
Competition  Acquisitions  Structured
New Business Model

Virtual Integration  Listen
Paperless

Anti-bureaucracy

Collaboration

Fast

Lean

Agile

Virtual

Prototypes

Empowerment
e-enabled

Coaches

Parallel

People Flow

Global

Team

Coopetition

Alliances

Flexible
New Business Model

- Auto Industry
- Industry
- Education
- Health Care
- Government
Lean / Agile

- Investment
- Engineering
- Manufacturing
- Everything
Examples: New Business Model

- Ford/GM Transmission Collaboration
- GM – DCX – BMW Hybrid Collaboration
- DCX – Toledo Plant
- GM Body Tooling
- Tool and Die Consortia
- Toyota Reinvention
Old Labor/Mgt Model

Is Obsolete

Confrontation → Collaboration
Knowledge

The Competitive Edge
It’s nice to be smart and rich, but smart is more important than rich.
Customer Pull

Cars and Trucks

Technology Push

Product and Process
TIME
Fast | Slow
---|---
Spectator | Dead
Have a chance | Parade has gone
Dumb | Smart
Fastest

Faster

Winner (temporarily)

Smarter

Smartest
Fast-paced change demands leverage of all resources
Change is Tough

Not Changing is Tougher
It’s All About People…

Relationships Are Important
The Future

♦ What will happen

♦ What we *think* will happen
Future CAFE - mpg

2009

Passenger Cars  32
Light Trucks     26
Product Technology

At the edge of a revolution?
Future Power Plants

- Gasoline
- Diesel
- Hybrid

The Answer – ?
Future Fuels

- Petroleum
- Bio
- Hydrogen

The Answer – ?
Future Gasoline Price –

$ 1.50 – $ 3.50 /gallon
Technological Progress—When to Commercialize

- Current Technology
- A
- B
- Too early

Time

$
# Electrical / Electronic Content

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Future Direction

It’s All a Matter of Economics
A Few Big Dogs
Consolidation Continues
Subsystem Optimization
Super Suppliers – Tiers 1 & 2
Lean — Agile
Fast, Smart, Rich, Global
Technology Revolution
World Class

is a Moving Target