

“Making the Future”

An Analysis of Major Trends Impacting the North American OEM Markets

Adhesives and Sealants Council

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Vice President

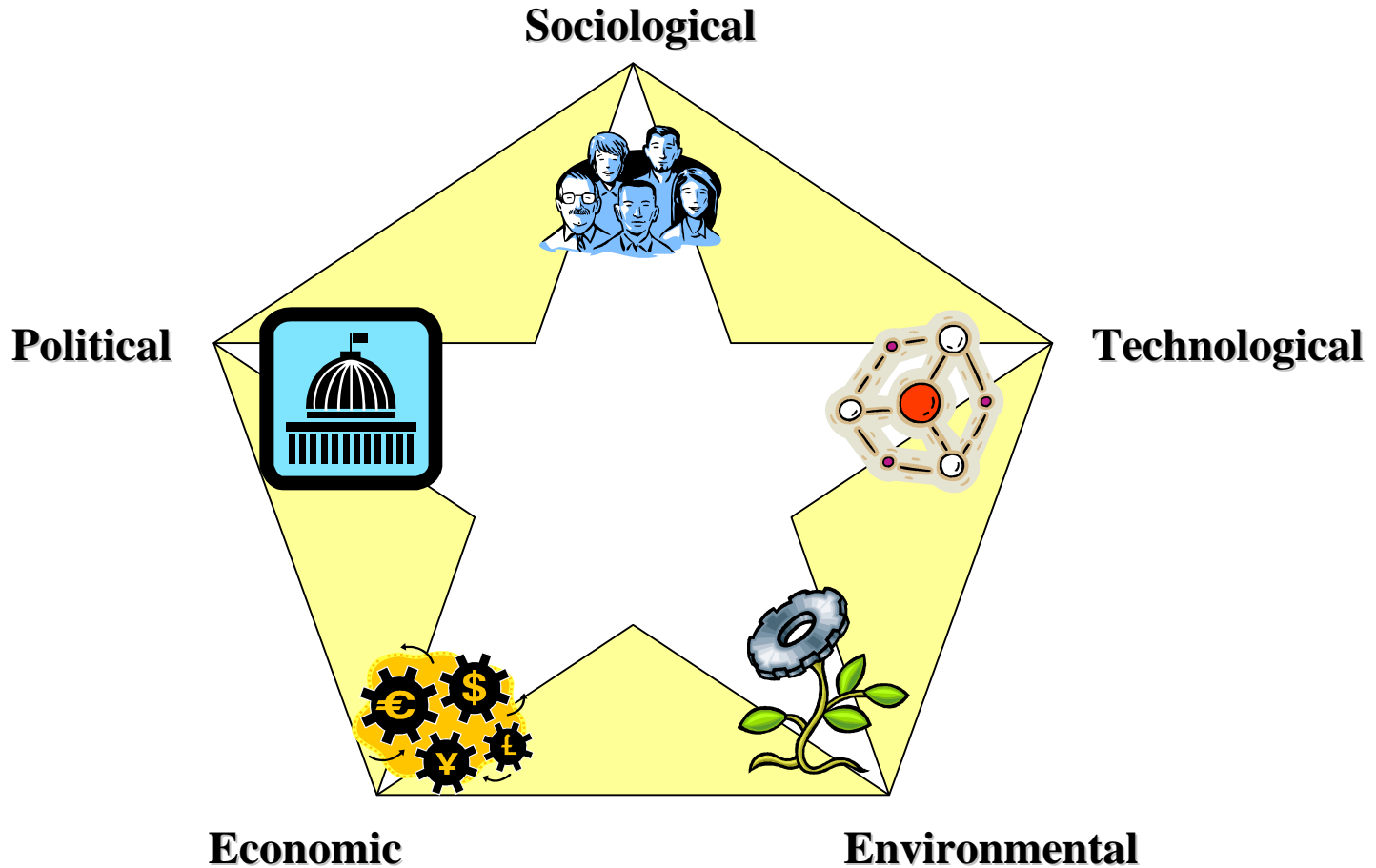
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Topics

- Trend Analyzer - “STEEP”
- Cone of Uncertainty
- Using Trend “Radar”
- 5 Major Trends and their Impacts on OEMs
- Conclusions

The STEEP Analyzer



STEEP Analyzer Elements

- **Sociological**

- Demographics
- Culture
- Consumer Behavior
- Crime

- **Technological**

- Basic Science/Discovery
- Materials
- Processes

- **Environmental**

- Air/Water/Land Quality
- Natural Resources

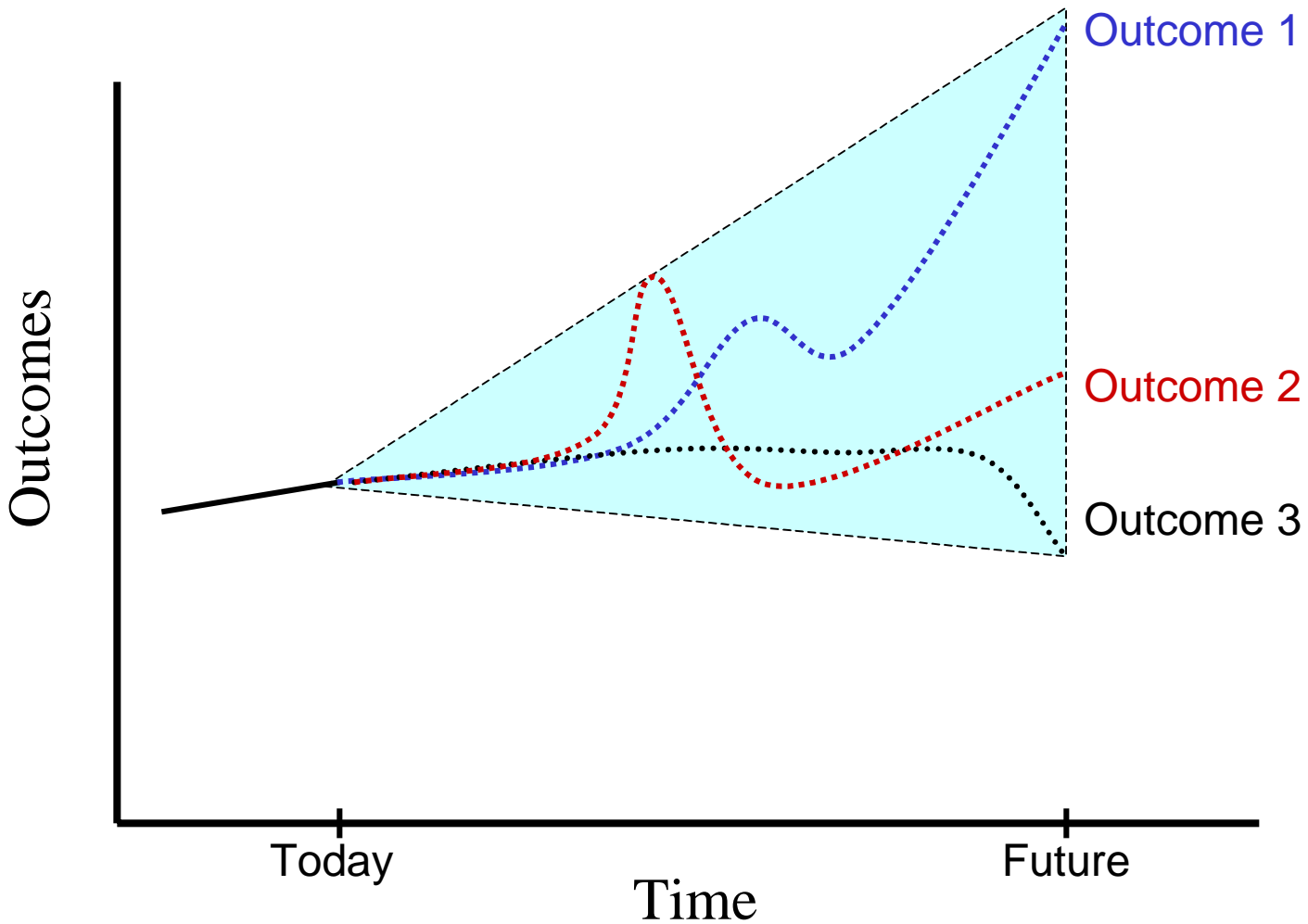
- **Economical**

- Business Cycle
- Standard of Living
- Energy/Materials
- Capital
- Labor

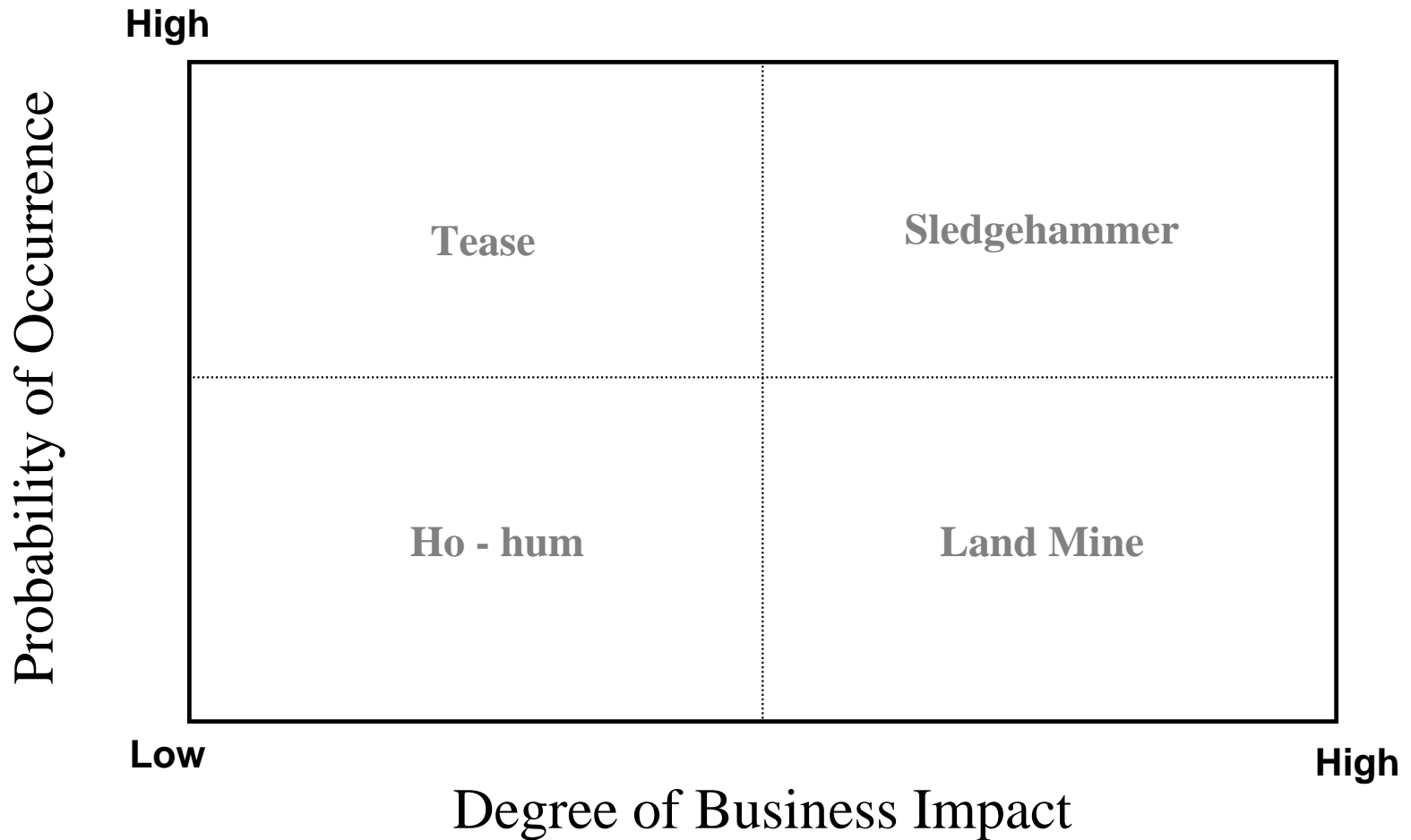
- **Political**

- Laws/Regulations
- Diplomacy/Foreign Trade
- Ethics

The Cone of Uncertainty



Managing The Cone with "Radar"



Trend: “Shifting Demographics”



The pool from which employees are drawn will remain the same size, but the composition will change:

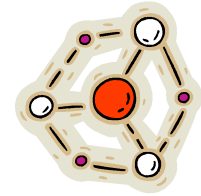
- Decline in “prime-age” workers/increase in young workers
- Shift from “child-care” issues to “elder-care” issues
- Foreign immigration to a small number of states

Implications: “Shifting Demographics”



- | | | |
|-----------------------|---|---|
| Prime-age workers | ⇒ | <ul style="list-style-type: none">• retention of long-service employees• increasing training needs• labor shortages |
| Young workers | ⇒ | <ul style="list-style-type: none">• increasing training needs |
| Child-care/elder-care | ⇒ | <ul style="list-style-type: none">• further reduction of an already reducing prime-age work force |
| Immigration | ⇒ | <ul style="list-style-type: none">• increasing training needs |

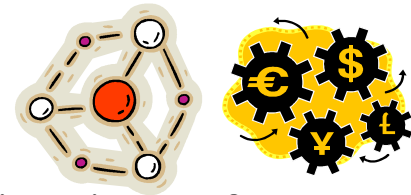
Trend: “Change at the End of the OEM Chain”



OEMs, particularly automotive, are increasingly moving away from integrated manufacturing to component assembly as their strategy focuses on marketing, styling and added-services

- Upstream delegation of Manufacture
- Upstream delegation of Design

Implications: “Change at the End of the OEM Chain”



Manufacture



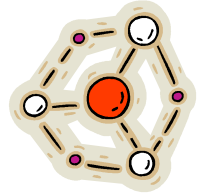
- increased modularization of manufacturing - components instead of parts
- new manufacturing techniques
- assembly at the customer
- manufacture to markets of one

Design



- standardization of components
- commoditization of components
- flexible design

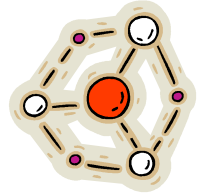
Trend: “Nanotechnology”



Material science technologies are evolving at the molecular and atomic level to allowing custom-design of new-to-the-world products.

- Additives and Materials
- Micro Devices

Implications: “Nanotechnology”



Materials



- very high performance plastics
- electro-active organic materials
- improved ceramics and metals
- “grown” materials and components

Micro Devices



- ubiquitous micro-sensors
 - process
 - product
- molecular machines to build one atom at a time

Trend: “Changing Footprint”



To maintain sustainable growth, companies are striving to reduce the “space” they take up in the environment, capital markets and society by reducing per output

- Capital Investment
- Environmental Impact
- Consumption

while increasing their “space” at the customer

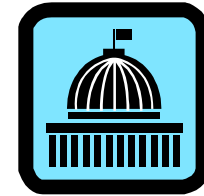
- Added services
- Branding

Implications: “Changing Footprint”



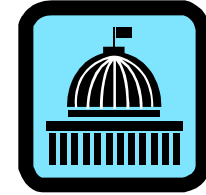
- | | | |
|--------------------|---|--|
| Capital Investment | ⇒ | <ul style="list-style-type: none">• flexible, simpler processes• continued leasing and off-book financing |
| Environment | ⇒ | <ul style="list-style-type: none">• exceed regulatory goals• local involvement |
| Consumption | ⇒ | <ul style="list-style-type: none">• emphasis on efficient use of resources |
| Added-Service | ⇒ | <ul style="list-style-type: none">• bundled products and services |
| Branding | ⇒ | <ul style="list-style-type: none">• branding at all levels of the value chain |

Trend: “Security”



The uncertainty in the geopolitical environment is causing a revaluation of all aspects of personal and business planning including the safety and protection of

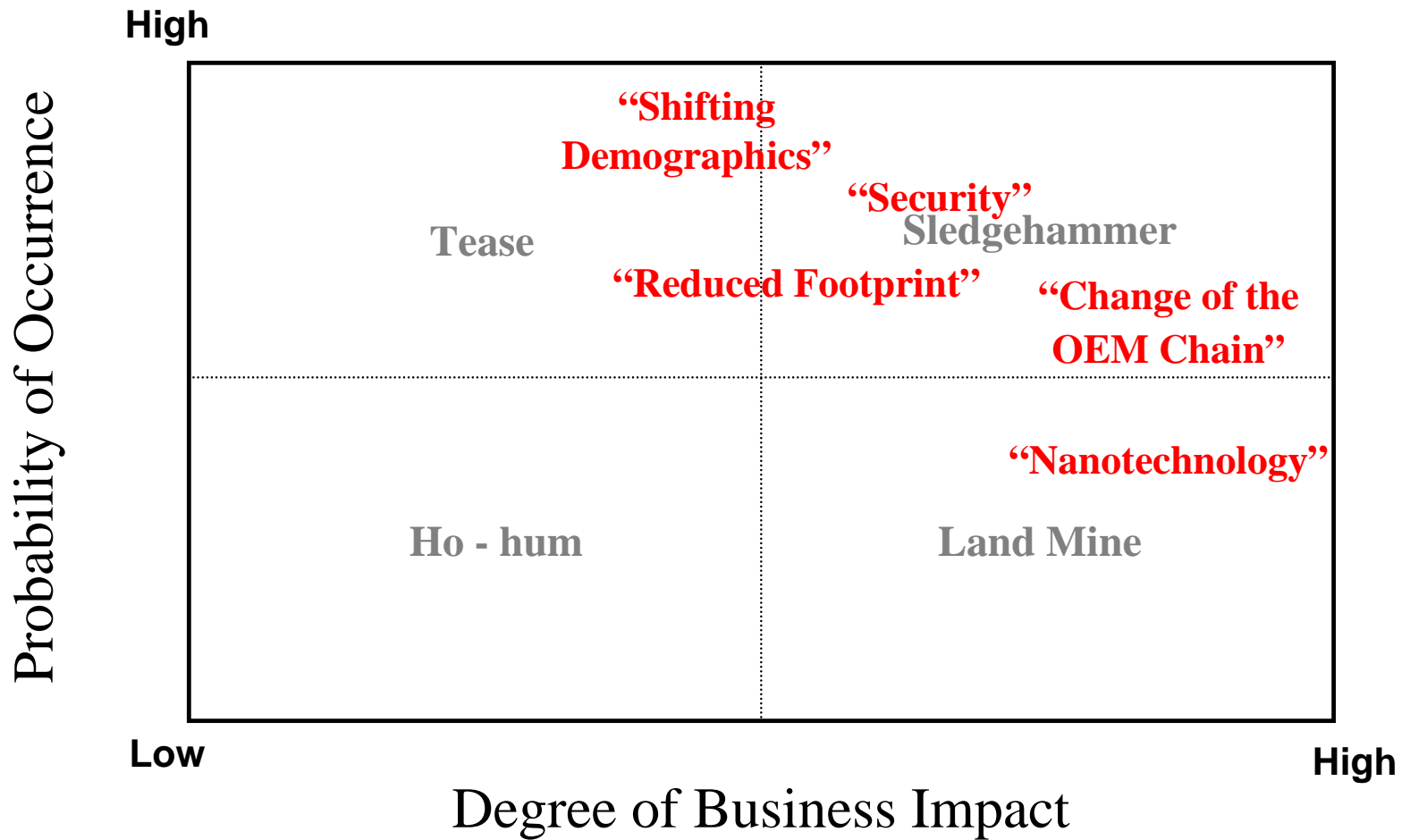
- Employees
- Supply chain and infrastructure
- Relationships
- Markets



Implications: “Security”

- | | | |
|---------------|---|--|
| Employee | ⇒ | <ul style="list-style-type: none">• increased cost of protection• risk management as a skill |
| Supply Chain | ⇒ | <ul style="list-style-type: none">• increasing inventories• higher cost to “globalize”• less outsourcing |
| Relationships | ⇒ | <ul style="list-style-type: none">• blending of strategies of
nation/states and business |
| Markets | ⇒ | <ul style="list-style-type: none">• volatility of commodities/capital |

Radar of OEM Trends



Conclusions

- As a microcosm of society, OEM markets are impacted by major trends
- Business planning should never assume trends are smooth and predictable, but should accommodate a range of possible outcomes (scenarios)
- The sudden disruption of society in 2001 will reverberate and drive certain existing trends faster while evolving new trends faster
- Trend analysis should be an important part of business intelligence gathering

About The Author



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