

# State of the North American Pulp & Paper Industry – An Update & Outlook –



## *Industry Competitiveness & Transform To Survive & Dominate*

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# Overview

- **The N.A. Industry – An Update – How Competitive?**
- **Enterprise Transformation . . .**
  - ✓ **The Context**
  - ✓ **Grasping The Potential Value – The Rationale**
  - ✓ **Key Elements**
  - ✓ **Illustrations**
  - ✓ **Framework**
- **Recap and Final Thoughts**

# The N.A. Industry – *How Competitive?* –

# How Competitive?

## ■ North American Paper Industry:

- ✓ Remains one of the largest world regions for paper consumption and enjoys significant fiber resources . . .
- ✓ Competitiveness has been boosted by weaker U.S. dollar, *but is being strained by aging assets . . .*
- ✓ Has enjoyed a moderate, cyclical upturn, but solid returns are still lagging & *volumes & prices are now struggling . . .*
- ✓ With stable to new prices, and financial performance improvement – *industry can buy time to redirect . . .*
- ✓ ...Many companies *may* have – *for a time* – more resources and opportunities to invest in their businesses with some stability – *but time is growing important.*

# How Competitive?

2007 Volume Down – After Slightly Up 2006

<b>North American Grade</b>	<b>2007 YTD Change In NA Production</b>
<b>Printing &amp; Writing</b>	<b>-2.9%</b>
<b>Containerboard</b>	<b>-2.5%</b>
<b>Boxboard</b>	<b>-1.7%</b>
<b>Newsprint</b>	<b>-9.1%</b>
<b>Chemical Paper Grade Pulp</b>	<b>+0.5%</b>

# How Competitive?

## Selected Current Prices Report – *Down - Mixed Bag*

Grade	Date	Latest	Year Ago	% Chg
50lb UFS (US\$/ton)	06/2007	\$845	\$865	-2%
60lb #3 CFS (US\$/ton)	06/2007	\$890	\$950	-6%
42# Kraft Liner (US\$/ton)	06/2007	\$510	\$510	0%
30lb Newsprint (US\$/tonne)	06/2007	\$575	\$655	-12%
Pulp NBSK List (US\$/tonne)	06/2007	\$770	\$750	+3%

# How Competitive?

- **Competitiveness Is Multidimensional:**
  - ✓ **Mill Performance vs. International Competition** (*i.e. North American vs. South Am. vs. European vs. Asian mills' productivity and quality*)
  - ✓ **Product Performance vs. Substitutes** (*i.e. paperboard folding cartons vs. plastic packaging – newspaper vs. TV, etc.*)
  - ✓ **End-User Performance vs. International Competitors** (*i.e. domestic vs. international manufacturers*)
  - ✓ **Financial Performance vs. Other Investments** (*i.e. returns on paper investment vs. alternatives of similar risk*)



# How Competitive?

- Based On These Dimensions, Industry Participants Must Recognize:
  - ✓ Off-shoring and substitution by alternative mediums *are driving long-term demand below current levels*
  - ✓ North America *has become increasingly uncompetitive* in pulp and paper production
  - ✓ The industry's cost based competition and capital rationing strategies *have eroded its asset base.*
  - ✓ The composite financial performance of the industry has been pitiful looking back – and without a sustained upturn will further dissuade future investment – *even with the improved short-term environment . . .*

# How Competitive?

**Absent Strength of the US Dollar Issues – *North America Does Not Enjoy Low Cost Producer Status In Most Grades***

<b>Grade Category</b>	<b>Low Cost Production Centers</b>
<b>Pulp</b>	<b><i>Brazil</i>, Chile, Argentina, Indonesia and <i>Canada</i> (selected)</b>
<b>Printing &amp; Writing Papers</b>	<b><i>Brazil</i>, Russia, Indonesia, Thailand, Scandinavia, Western Europe</b>
<b>Newsprint</b>	<b>Eastern Europe, <i>Brazil</i>, Chile and <i>Canada</i></b>
<b>Premium Folding Carton Grades</b>	<b><i>Brazil</i>, Russia, Sweden, Chile and Finland</b>

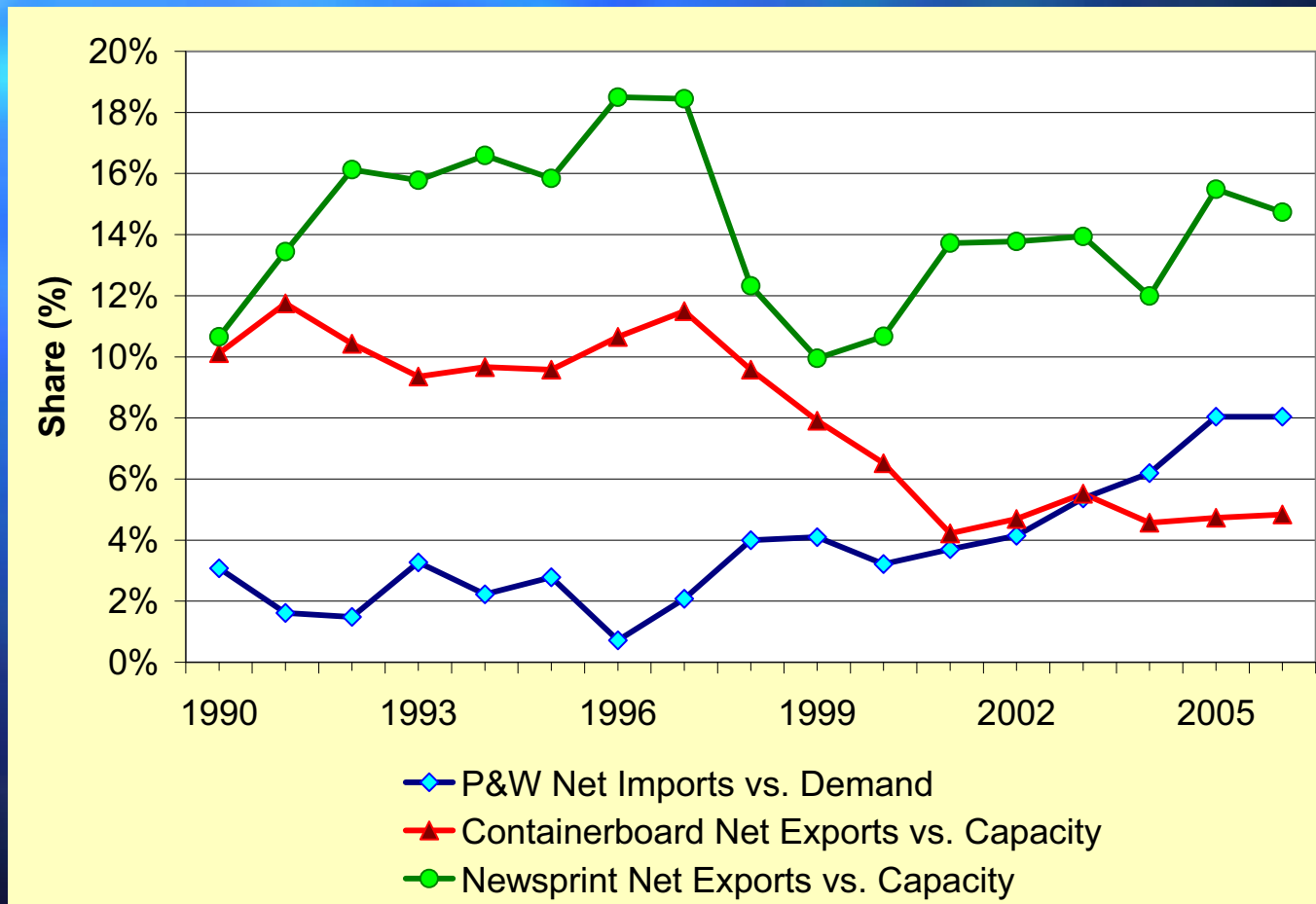
# How Competitive?

High Volume North American Grades  
*Have Significant Substitution Threats*

Grade Category	Substitutes
Containerboard	Re-usable shipping containers, offshoring of manufacturing
Packaging Grades	Flexible packaging, offshoring of manufacturing
Printing & Writing Papers	Electronic communications, alternative advertising mediums
Newsprint	Electronic communications, alternative advertising mediums
Tissue	<i>No major substitutes</i>

# How Competitive?

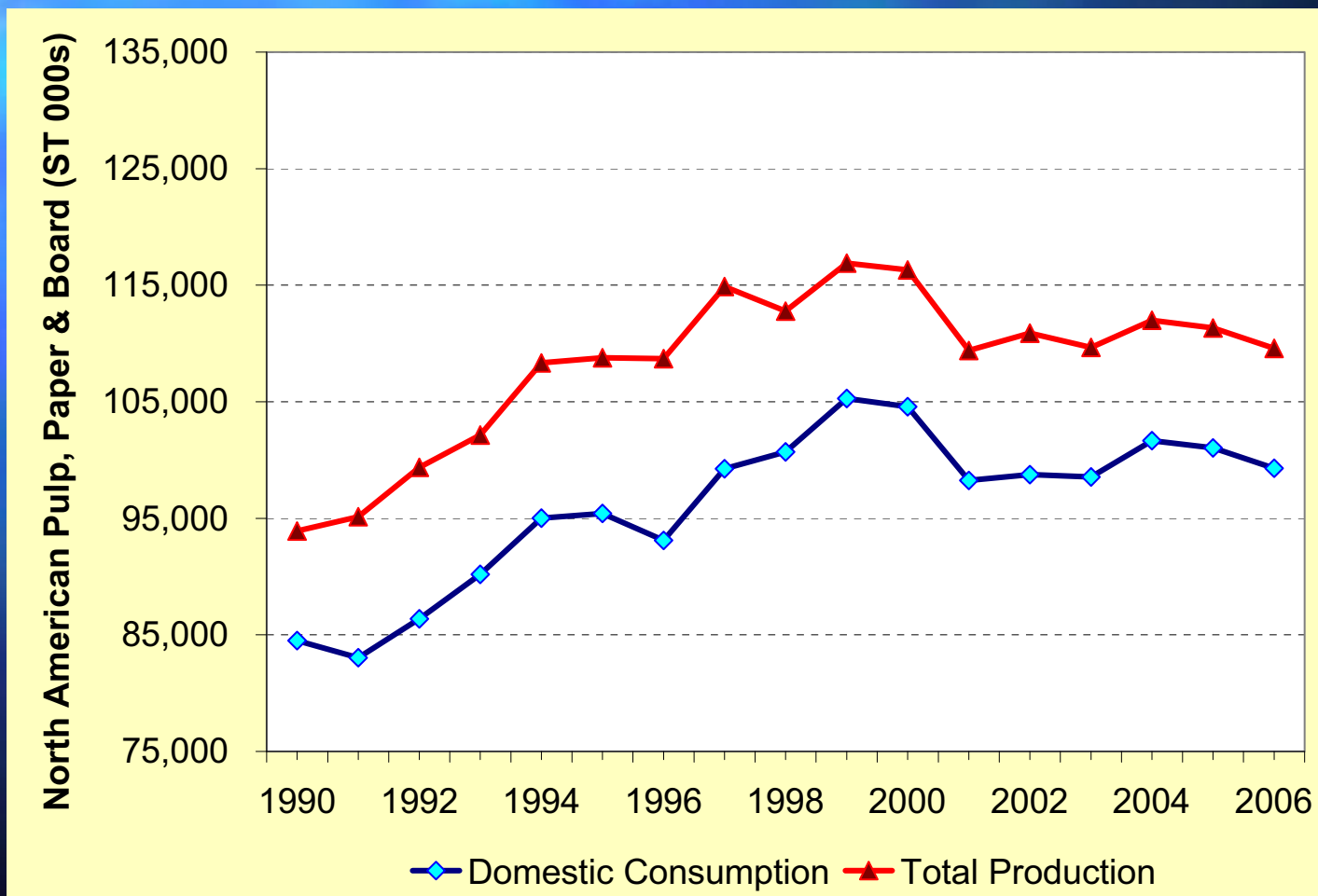
*Trade Patterns Have Weakened For North American Producers In P&W, Containerboard and Newsprint*



# How Competitive?

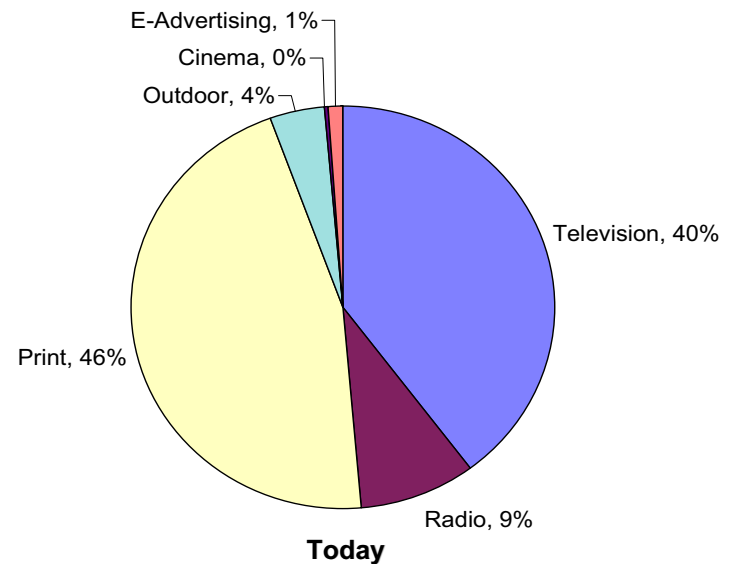
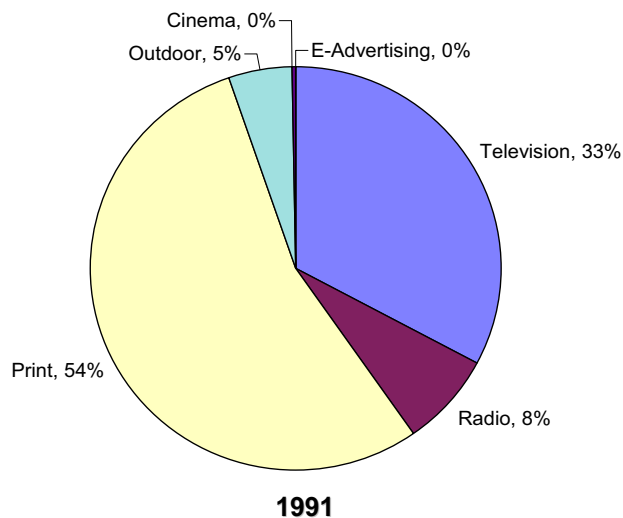
*Substitutes, The Early 2000s Recession & International Competition Together Suppressed Domestic Production and Consumption*

*- Off 5% in 2007 From Its 1999 Peak*



# How Competitive?

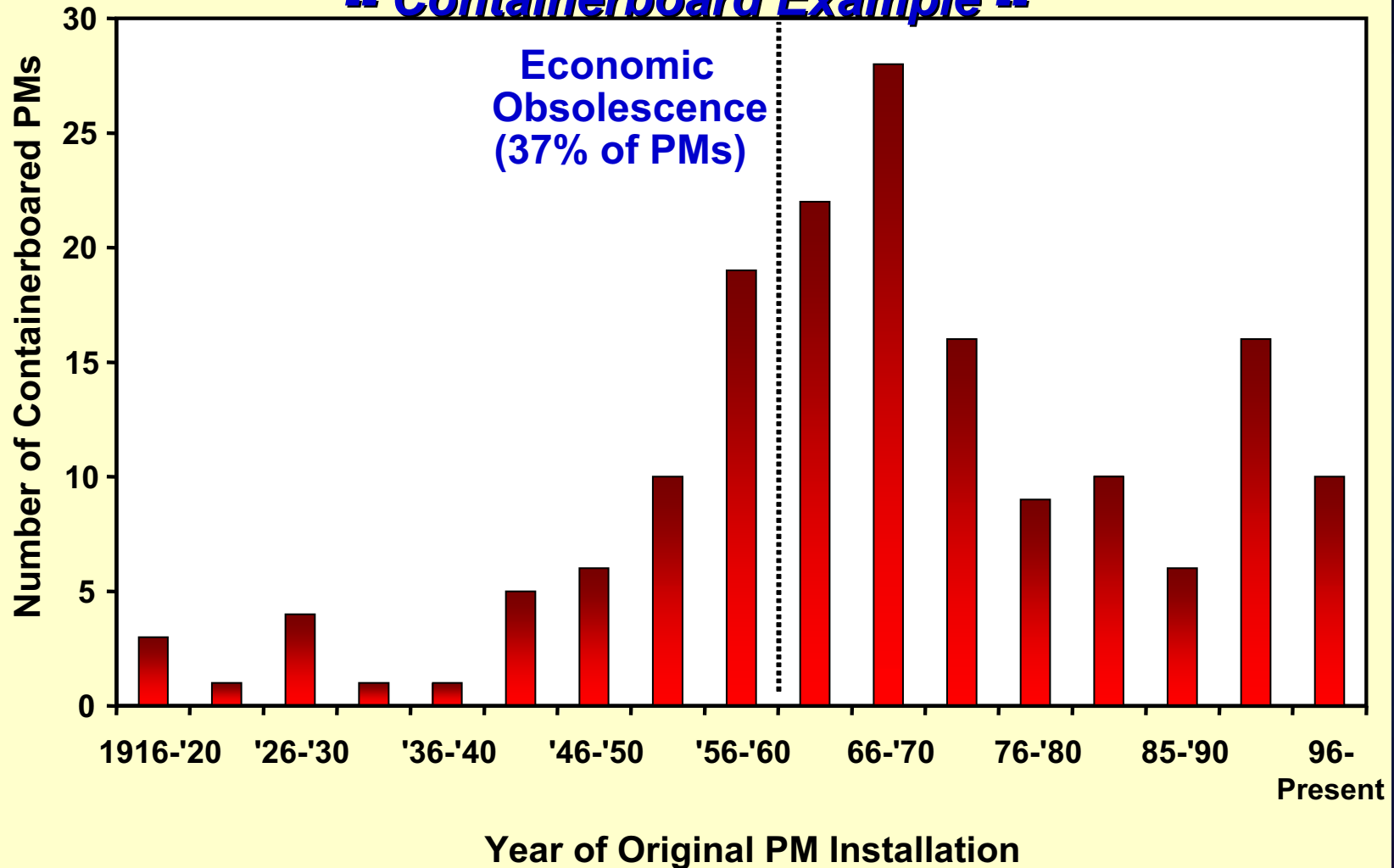
**Worldwide Print Advertising Has Lost Nearly 10 Points of Market Share Since 1991 – And Expectations Are For This Trend to Continue**



# How Competitive?

Large Share of North American Assets Are Approaching The End of Their Economic Lives

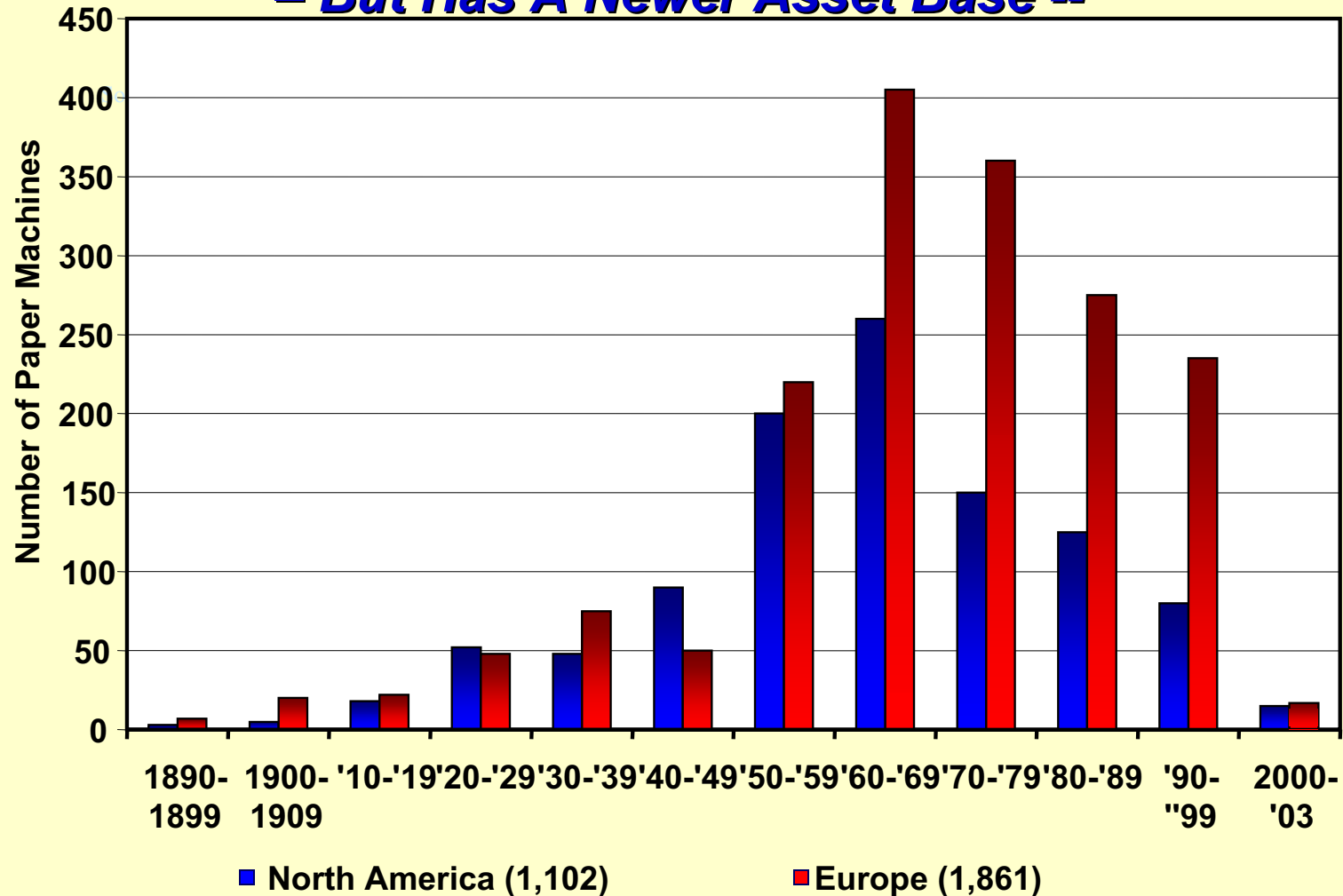
-- **Containerboard Example** --



# How Competitive?

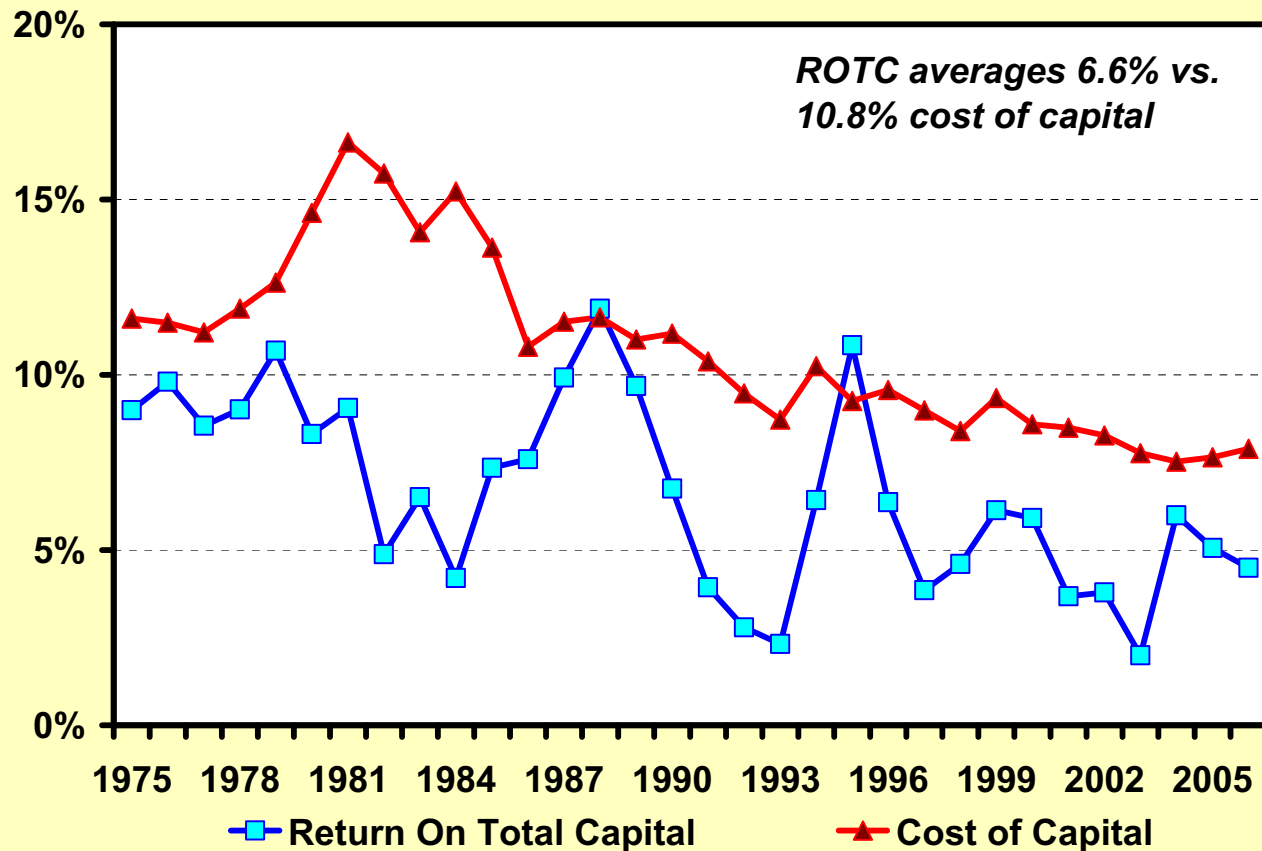
Europe Is Facing Similar Demand & Competitive Issues

***– But Has A Newer Asset Base --***





# How Competitive?

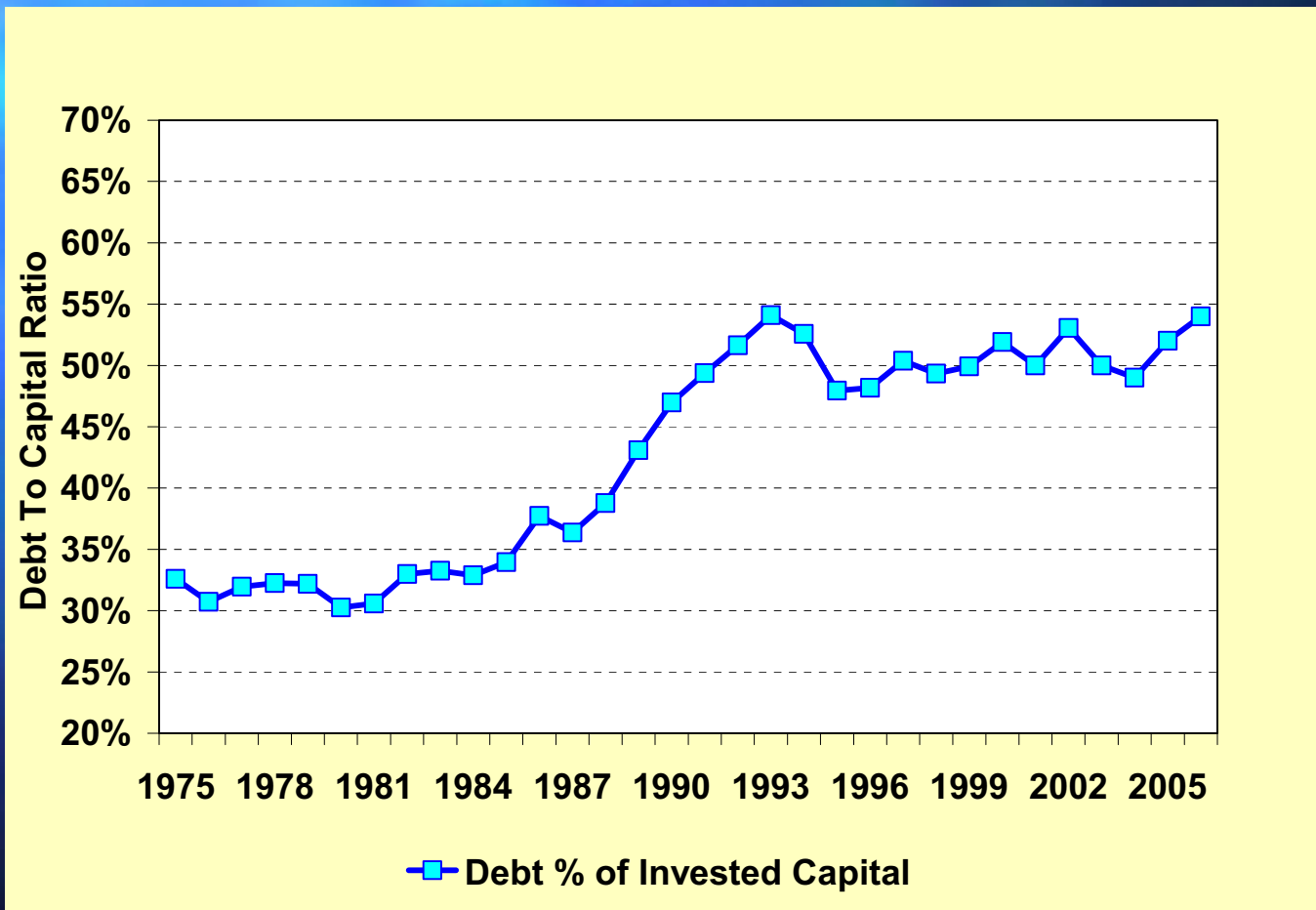


Returns Are Moderating After Approaching the Cost of Capital in 2004 / 2005 – Rational Investors *Will Not Allocate* Capital To A Poorly Performing Industry

# How Competitive?

Increased Debt Levels Across Time

*Significantly Limit Investment Opportunities & Flexibility*



# How Competitive?

- In essence then – the industry has been a poor performer since the 1970s – it faces a continually tough business environment – *in spite of today's decent upturn*
- And, as Noted – the North American Pulp and Paper Industry
  - ✓ *Is not the low-cost producer on most grades, and*
  - ✓ *High-volume grades have significant substitution and global market place threats*
- Wherein – traditional business models have been *stretched to the limit* with
  - ✓ *The emergence of the global marketplace, and*
  - ✓ *The new power of rapidly moving knowledge and knowledge transfer*

# How Competitive?

- Accordingly – participants must learn how to thrive under these often *intense, negative, and rapidly changing conditions*

**...but individual companies can excel if they use the current short to mid-term upturn to chart a new course looking out . . .**

# **Enterprise Transformation**

**The Context**

**Grasping The Potential Value**

**Key Elements**

**Illustrations**

**Framework**

## Enterprise Transformation – *The Context*

- Enterprise Transformation *seems to be essential* if firms in this troubled industry sector *are to survive and dominate*
- But – typical N.A. pulp and paper companies have followed *a rather time honored & traditional approach* to enterprise management . . .
  - ✓ *That most often does not include the structures and initiatives for consistent organizational change and management aimed at a persistent and ongoing process of Enterprise Transformation*
- As a result, in part, industry performance . . .
  - ✓ *Has struggled greatly,*
  - ✓ *Investment has spiraled downward, and*
  - ✓ *Competitiveness has eroded in the global market place*

## Enterprise Transformation – *The Context*

- However, individual suppliers and paper companies can leverage a sincere effort toward Enterprise Transformation to *begin to dominate, outperform and create value*
- *To understand how to embrace Enterprise Transformation as a real organizational working construct, we need to*
  - ✓ *First grasp the value of enterprise transformation, then*
  - ✓ *Better understand what it is,*
  - ✓ *What is needed inside our firms to allow them to establish and pursue it, and*
  - ✓ *What are the key components of success or failure in seeking a pathway driven by true Enterprise Transformation concepts, actions and outcomes . . .*

# Enterprise Transformation – Grasping the Potential Value –



# An Example – *IBM's Transformation Results*

## Business Process Re-engineering Results:

*Hardware development time*

**67% Faster**

*On-time delivery*

**95%**

*Rate of "maverick" buying*

**From 45% to less than 0.5%**

*Customer satisfaction*

**+ 5.5 points**

## Infrastructure Simplified:

	1992	2002
<i>CIOs</i>	<b>128</b>	<b>1</b>
<i>Data Centers</i>	<b>235</b>	<b>18</b>
<i>Key Applications</i>	<b>145</b>	<b>55</b>
<i>Networks</i>	<b>31</b>	<b>1</b>

# More – *IBM Transformation Results*

## HR Operations Simplified:

	1992	2004
<i>HR Operation Centers</i>	<b>38</b>	<b>1</b>
<i>Key Applications</i>	<b>168</b>	<b>71</b>
<i>HR Data Centers</i>	<b>21</b>	<b>1</b>
<i>HR U.S. Headcount</i>	<b>3,650</b>	<b>1,438</b>
<i>WW Ratio of HR/Employees</i>	<b>1:59</b>	<b>1:109</b>

***Human Resources delivering more with less through better efficiency***

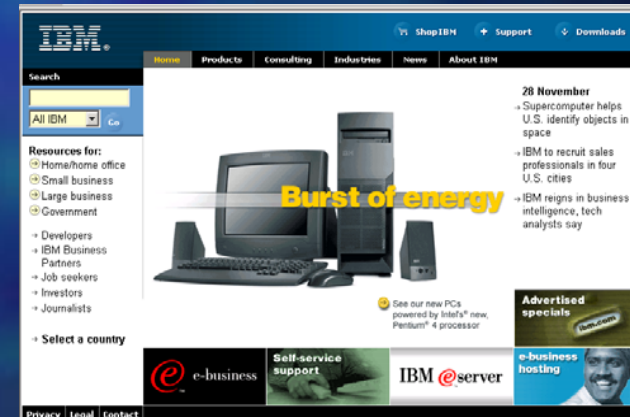
# More – IBM Transformation Results

## Operations Improved:

	<u>FY1998</u>	<u>2002</u>
<u>e-commerce</u>	<b>\$3B</b>	<b>+\$27B</b>
<u>e-procurement</u>	<b>\$7B</b>	<b>+\$40B</b>
<u>Support transactions</u>	<b>14M</b>	<b>+120M</b>
<u>Distributed learning</u>	<b>15%</b>	<b>+40%</b>

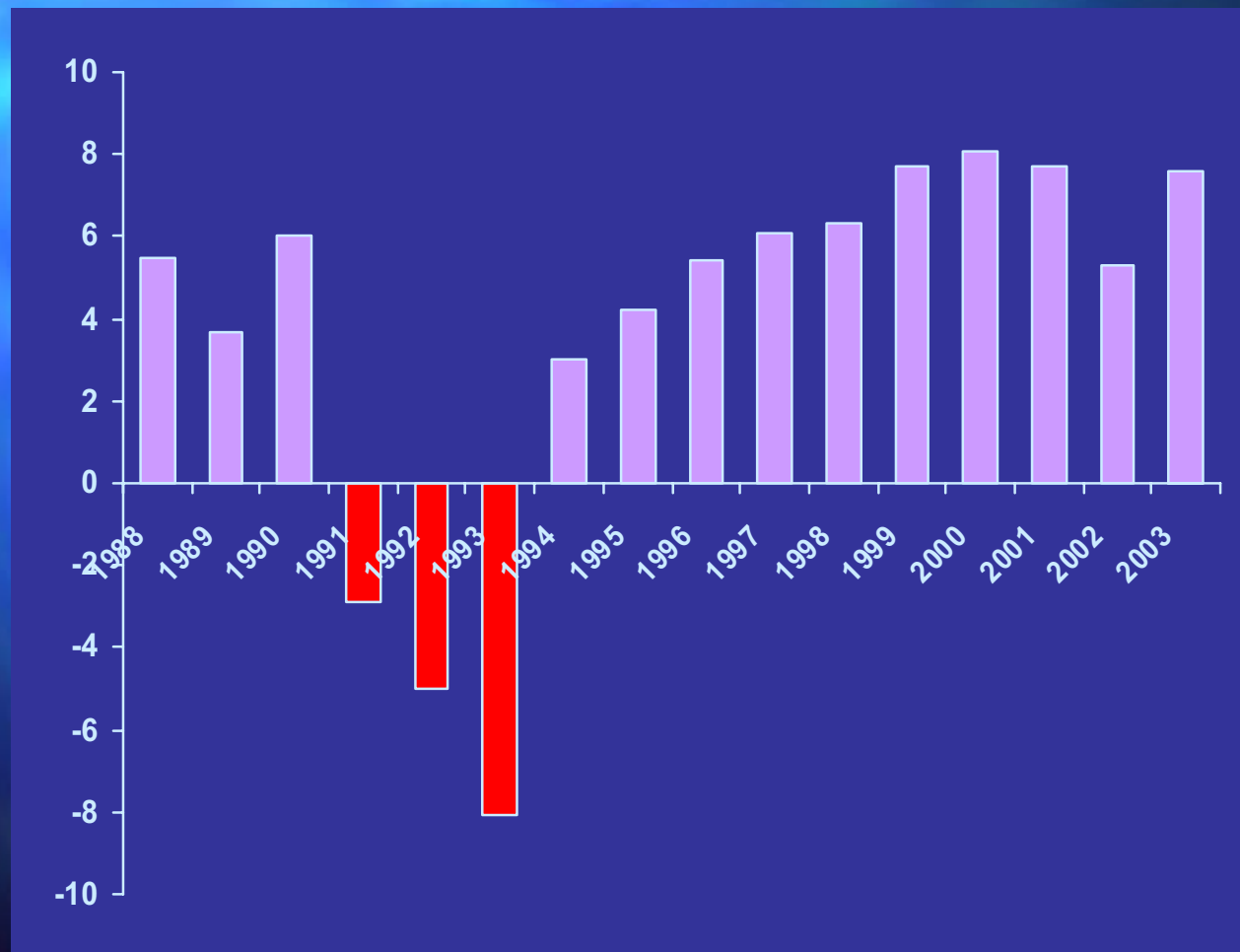
IBM Transformation  
Business savings:

**More than \$6.2B**



# More – *IBM Transformation Results*

**IBM Net Income: 1988-2003 (\$billions)**



## Plug Power – *External Indicators Of Enterprise Transformation Progress*

- All public milestones achieved – *5 consecutive years*
- Since 12/31/01 Market Cap Growth *has outpaced all competitors*
- Market indicator of *enterprise value/revenue multiple* has moved from significantly trailing the lead competitor in '01, to becoming the current industry leader, 33% higher than the next highest multiple in the competitive group
- Recognized industry leadership – *validated by sustained new investment in Plug Power . . .*

# Lockheed Martin – “Lay the Keel” for *Supply Chain Integration*

**Example**

**Past**



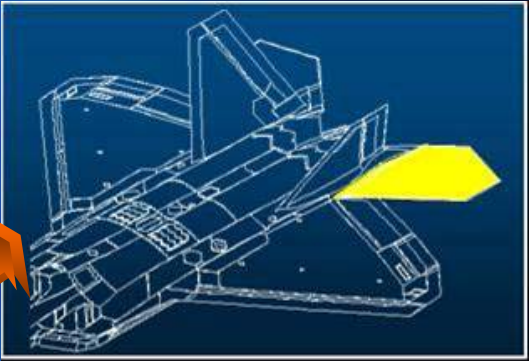
- 12,000 Suppliers
- Piece Parts

**Transition**



- 5,000 Suppliers
- Kits

**Future State**



- 1,000 Suppliers
- Integrated Assembly

# Enterprise Transformation – *Key Elements*

- Definition of Enterprise Transformation
- Enterprise Transformation Drivers
  - ✓ *Value Deficiencies Drive Transformation*
  - ✓ *Work Processes Enable Transformation*
  - ✓ *Allocation of Attention & Resources*
  - ✓ *Management Decision Making*
  - ✓ *Social Networks*

# Enterprise Transformation – *Definition*

- Enterprise Transformation is driven by –
  - ✓ Experienced and/or anticipated *value deficiencies* that result in significantly redesigned and/or new *work processes* . . .
  - ✓ As determined by management's *decision making* abilities, limitations, and inclinations . . .
  - ✓ All in the context of the *social networks* of management in particular, and the enterprise in general . . .



## **Value Deficiencies – Drive *Transformation***

- Experienced or expected downside losses of value, e.g., *declining enterprise revenues and/or profits*
- Experienced or expected failures to meet projected or promised upside gains of value, e.g., *failures to achieve anticipated enterprise growth*
- Desires to achieve new levels of value, e.g., *via exploitation of market and/or technological opportunities*

## Work Processes – Enable *Transformation*

- Improve how work is currently performed, e.g., *reduce variability*
- Perform current work differently, e.g., *web-enable customer service*
- Perform different work, e.g., *outsource manufacturing and focus on service*

## Allocation of Attention & Resources – *Key to Transformation*

- Anticipate and adapt to changes of external variables, i.e., *control the enterprise relative to the “road ahead” rather than the “road behind”*
- *Cultivate and allocate resources so as to yield future enterprise states* with high projected value with acceptable uncertainties and risks

# Management Decision Making – *Essential for Transformation*

## ■ Phenomena

- ✓ Folklore and fact of managers' jobs (Mintzberg)
- ✓ *Optimizing vs. Satisficing* (Simon)
- ✓ *Organizational Delusions* (Rouse)
- ✓ *Role of Intuition* (Klein)

## ■ Frameworks

- ✓ *How managers address change*, ranging from tuning, to adaptation, to reorientation, to re-creation (Nadler & Tushman)
- ✓ *Managers' modes of control*, ranging from scrambled, to opportunistic, to tactical, to strategic (Hollnagel)

# Social Networks – *Essential for Transformation*

- **Strong vs. Weak Networks (Burt, Granovetter)**
  - ✓ **Strongly connected networks result in *rapid and efficient information and knowledge sharing among members***
  - ✓ **Weakly connected networks *have “holes”* – in many cases between strongly connected subnetworks**
- **Implications for Transformation**
  - ✓ **Weakly connected networks are *often better sources of new information and novel ideas* – but . . .**
  - ✓ **Strongly connected networks are *better at implementing change* once sense has been made of them**

Potential Defined by Markets & Technologies

Potential Value

Projected Inputs

Projected State

Projected Outputs

Projected Deficiencies

Work Processes

Projected Value

Process Tuning

Enterprise Transformation is a Constant Process

Tennenbaum Institute – Bill Rouse

Work Process Redesign Driven by Value Deficiencies

# Examples of Transformation

**For Value Deficiencies**  
*That Drive Transformation*

**For Work Processes**  
*That Enable Transformation*

# Value Deficiencies Examples – *That Drive Enterprise Transformation*

Value Opportunities – The lure of greater success via market and/or technology opportunities

Value Threats – The danger of anticipated failure due to market and/or technology threats

Value Competition – Other players' transformation *initiatives prompt recognition transformation necessary* for continued success

Value Crisis – Steadily declining market performance, cash flow problems, etc. *prompt recognition transformation necessary to survive*



# Work Processes Examples – *That Enable Enterprise Transformation*

Markets Targeted – Pursuing global markets such as emerging markets, or pursuing vertical markets such as aerospace and defense

Market Channels Used – Adding web-based sales of products and services such as automobiles, consumer electronics, and computers

Value Proposition – Moving from selling unbundled products and services to providing integrated solutions for information technology management

# Work Processes Examples – *That Enable Enterprise Transformation*

Offerings Provided – Changing the products and services provided – *perhaps by private labeling of outsourced products and focusing on support services*

Supply Chain Restructuring – Simplifying supply chains, *negotiating just-in-time relationships, developing collaborative information systems*

Outsourcing – Contracting out manufacturing and/or maintenance, *information technology support; etc.*

Offshoring – *Employing low-wage, high-skill labor from other countries*

# Work Processes Examples – *That Enable Enterprise Transformation*

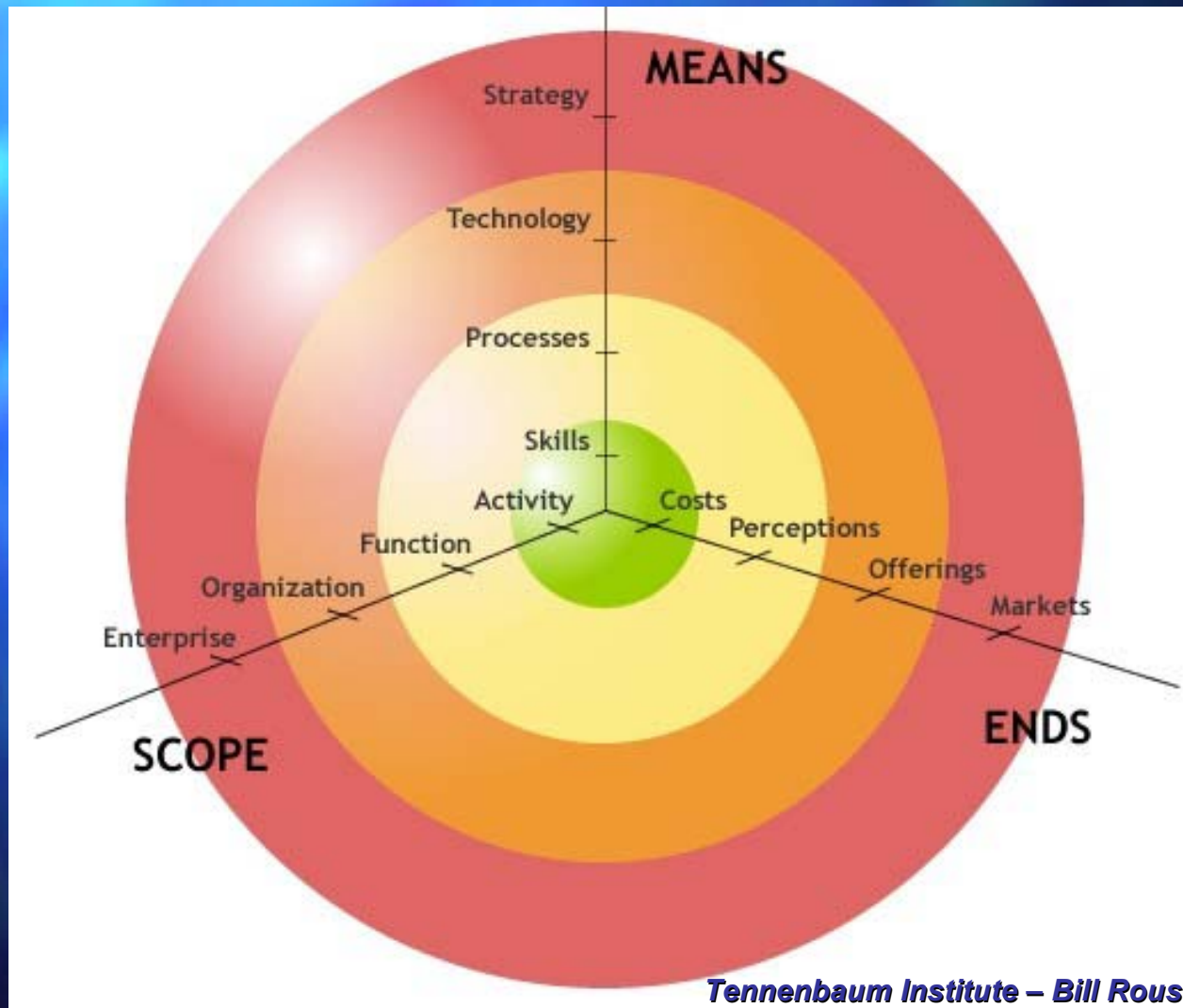
Process Standardization – Enterprise-wide standardization of processes for product and process development, R&D, finance, personnel, etc.

Process Reengineering – Identification, design, and deployment of value-driven processes; identification and elimination of non-value creating activities

Web Enabled Processes – Online, self-support systems for customer relationship management, inventory management, etc.

# Transformation Framework

– *Focus on – Ends – Means – Scope –*



# Recap & Final Thoughts

*Transform to dominate or die . . .*

Sic – Michael Oliff

*Change is an essential ingredient to survival –  
Enterprise Transformation is the essential  
context for sustained organizational change to  
survive & dominate . . . or die*

# Recap & Final Thoughts

**Thank You!** -- Copies Available At

**[www.valueresolution.com](http://www.valueresolution.com)** -- And -- **[www.cpbis@gatech.edu](mailto:www.cpbis@gatech.edu)**

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