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

Industry Competitiveness &
The Innovation Imperative
-- October 2005 --

Value Resolution Group – Dan Cenatempo AVA, CMC
Center for Paper Business and Industry Studies (CPBIS) – Jim McNutt
The North American Pulp & Paper Industry -- Preview

- How Competitive?
- The Innovation Imperative
- The Innovation Shutdown
- Restarting The Innovation Machine
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...
  - Has enjoyed a moderate, cyclical upturn...
  - With prices, volume and financial performance improving – *maybe can extend into 2006*...
  - ...Many companies will have -- *for a time* -- more resources and opportunities to invest in their businesses since 1995.
# How Competitive?

**Volume & Price Performance Is Improving**

<table>
<thead>
<tr>
<th>North American Grade</th>
<th>2005 Expected Change in NA Production</th>
<th>2005 vs. 2004 Change in Average Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printing &amp; Writing</td>
<td>-2.4%</td>
<td>0% to +10.5%</td>
</tr>
<tr>
<td>Boxboard</td>
<td>+0.8%</td>
<td>-2% to 0%</td>
</tr>
<tr>
<td>Containerboard</td>
<td>-0.5%</td>
<td>-1% to 0%</td>
</tr>
<tr>
<td>Newsprint</td>
<td>-4.6%</td>
<td>+10%</td>
</tr>
<tr>
<td>Chemical Paper Grade Pulp</td>
<td>+6.0%</td>
<td>-5% to -1%</td>
</tr>
</tbody>
</table>
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*

<table>
<thead>
<tr>
<th>Grade Category</th>
<th>Low Cost Production Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulp</td>
<td><em>Brazil</em>, Chile, Argentina, Indonesia and <em>Canada</em> (selected)</td>
</tr>
<tr>
<td>Printing &amp; Writing Papers</td>
<td><em>Brazil</em>, Russia, Indonesia, Thailand, Scandinavia, Western Europe</td>
</tr>
<tr>
<td>Newsprint</td>
<td>Eastern Europe, <em>Brazil</em>, Chile and <em>Canada</em></td>
</tr>
<tr>
<td>Premium Folding Carton Grades</td>
<td><em>Brazil</em>, Russia, Sweden, Chile and Finland</td>
</tr>
</tbody>
</table>
# How Competitive?

**High Volume North American Grades Have Significant Substitution Threats**

<table>
<thead>
<tr>
<th>Grade Category</th>
<th>Substitutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Containerboard</td>
<td>Re-usable shipping containers, offshoring of manufacturing</td>
</tr>
<tr>
<td>Packaging Grades</td>
<td>Flexible packaging, offshoring of manufacturing</td>
</tr>
<tr>
<td>Printing &amp; Writing Papers</td>
<td>Electronic communications, alternative advertising mediums</td>
</tr>
<tr>
<td>Newsprint</td>
<td>Electronic communications, alternative advertising mediums</td>
</tr>
<tr>
<td>Tissue</td>
<td><em>No major substitutes</em></td>
</tr>
</tbody>
</table>
How Competitive?

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

Substitutes, The Recession & International Competition Have Suppressed Production and Domestic Consumption

- Off 3% to 4% in 2005 From Its 1999 Peak – In Spite Of The Recent Rebound

![Graph showing North American Paper & Board production and domestic consumption from 1990 to 2004. The graph indicates a decrease in production and domestic consumption from 1999 to 2005, with a recent rebound.]
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 --

Economic Obsolescence (37% of PMs)

Number of Containerboarded PMs

Year of Original PM Installation

1916-’20 '26-’30 ’36-’40 ’46-’50 ’56-’60 66-’70 76-’80 85-’90 96- Present
How Competitive?

Europe Is Facing Similar Demand Issues

But Has A Newer Asset Base --

Number of Paper Machines

North America (1,102)  Europe (1,861)
How Competitive?

Average U.S. Industry Returns Can Service Debt

-- But Still Not High Enough To Create Value --

ROTC averages 6.7% vs. 11.0% cost of capital

Return On Total Capital vs. Cost of Capital
How Competitive?

Increased Debt Levels Across Time – But Improving

Significantly Limit Investment Opportunities & Flexibility

Debt % of Invested Capital

<table>
<thead>
<tr>
<th>Year</th>
<th>Debt To Capital Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>30%</td>
</tr>
<tr>
<td>1979</td>
<td>35%</td>
</tr>
<tr>
<td>1983</td>
<td>40%</td>
</tr>
<tr>
<td>1987</td>
<td>45%</td>
</tr>
<tr>
<td>1991</td>
<td>50%</td>
</tr>
<tr>
<td>1995</td>
<td>55%</td>
</tr>
<tr>
<td>1999</td>
<td>60%</td>
</tr>
<tr>
<td>2003</td>
<td>65%</td>
</tr>
</tbody>
</table>
How Competitive?

- The industry has been a poor performer since the 1970’s – it faces an increasingly tough environment -- in spite of today’s decent upturn.
- Participants must continue to learn to thrive under these very difficult conditions.
- The overall N. Am. industry will likely not fare well . . .

...but the individual companies can thrive if they use the current upturn to embrace and leverage innovation!
The Innovation Imperative
As participants in, and suppliers to, the North American Paper Industry, we all want to enjoy the benefits of strong financial performance. We want to grow, be profitable, generate good returns, etc. – we want to create value! The value created in a business is generated by acquiring, building, maintaining and exploiting assets.
The Innovation Imperative

Intellectual Property Is Risky, But Required
To Sustain Superior Returns
The Innovation Imperative

- Companies that are limited to ownership of commodity assets will *NOT* be able to create value for any sustained period of time due to the competitive nature of commodities...

- They must have something special – intellectual property in the form of patented technology, trademarks, copyrights or trade secrets.
The Innovation Imperative

- No intellectual property – *no sustained value creation*
- No innovation – *no intellectual property*

Innovation Is Imperative To Create Value!
The Innovation Imperative

The North American Industry Has Focused Almost Exclusively On Commodity Assets!
The Innovation Imperative

A NA Paper Industry’s Continued Focus on a Commodity Asset Strategy Can Not Result In Acceptable Performance
The Innovation Shutdown
The Innovation Shutdown

How did we get here?

- A dynamic mix of:
  1. Industry market realities
  2. Financial market realities
  3. Industry culture
  4. Good intentions...

That Resulted In The Shutdown of Our Innovation Capacity
The Innovation Shutdown

Industry Market Realities
- Maturing demand
- Substitute products
- Offshore growth

Financial Market Realities
- Capital portability
- Short-term earnings focus
- R&D “expensed” & curtailed
- Shift from Industrial to Service to Knowledge economy

Industry Culture
- Low Conflict Tolerance
- Risk Averse – Marginal Behavior
- Management From Operating Background – Enamored With Equipment & Improved Technology
- Implementation Oriented
- Parochial vs. System Thinking

Poor Decisions In The Pursuit of Cost Based Competition

Good Intentions
- Perform well
- Be “World Class”
- Increase Productivity
The Innovation Shutdown

- **Cost Based Competition:**
  - R&D is an expense – *cut it!* – push it off on suppliers and research consortiums!
  - Risk is bad – *reduce it!*
  - Profits are down, debt is up – *cut capital spending!*
  - Build market power – *spend to acquire!*
  - Lower cost – *spend to increase scale!*
  - One major outcome – *stagnation of capital investment!*

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Lost Proprietary Assets!
The Innovation Shutdown

- The RESULT: no innovation = low risk projects, old and commodity assets = poor performance = no investment = industry decline.

- IS IT THAT BAD? Initial evidence says YES:
  - Industry statistics say YES.
  - Industry management says YES.
The Innovation Shutdown

- To illustrate, we selected a basket of companies inside and outside the paper industry and looked at key statistics.
- Then -- did an informal survey of 20 high-level industry executives and managers.

“There are two kinds of statistics, the kind you look up, and the kind you make up.” - Rex Stout -

“There are lies, damned lies, and statistics.” - Mark Twain -
The Innovation Shutdown

Capital Expenditures Have Fallen Well Below Depreciation Levels -- And Are Staying There

Graph showing PP&E Capital Expenditures as a percentage of depreciation from 1975 to 2003.
The Innovation Shutdown

Relative Paper Industry Returns Are *Minimal to Negative*

<table>
<thead>
<tr>
<th>Company</th>
<th>12 Month ROTC</th>
<th>5-Year ROTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coca-Cola Corp.</td>
<td>2.9%</td>
<td>24.0%</td>
</tr>
<tr>
<td>Microsoft</td>
<td>14.2%</td>
<td>21.6%</td>
</tr>
<tr>
<td>P&amp;G</td>
<td>18.8%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Kimberly-Clark</td>
<td>13.3%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Intel</td>
<td>18.6%</td>
<td>15.5%</td>
</tr>
<tr>
<td>Nucor</td>
<td>25.9%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Weyerhaeuser</td>
<td>5.0%</td>
<td>2.9%</td>
</tr>
<tr>
<td>GP</td>
<td>3.9%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Mead-Westvaco</td>
<td>-3.2%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Smurfit-Stone</td>
<td>-1.5%</td>
<td>0.6%</td>
</tr>
<tr>
<td>IP</td>
<td>1.9%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Bowater</td>
<td>-1.9%</td>
<td>0.3%</td>
</tr>
<tr>
<td>U.S. Steel</td>
<td>16.5%</td>
<td>-1.6%</td>
</tr>
</tbody>
</table>

Source: Multex Investor – For 2004 Data
The Innovation Shutdown

Paper Industry R&D Spending Levels Are Minimal – Most Companies Don’t Even Report

<table>
<thead>
<tr>
<th>Company</th>
<th>2003 R&amp;D % of Sales</th>
<th>2001 R&amp;D % of Sales</th>
<th>2003 Total R&amp;D ($ Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel</td>
<td>14.3%</td>
<td>14.3%</td>
<td>$4,300</td>
</tr>
<tr>
<td>Microsoft</td>
<td>13.7%</td>
<td>15.2%</td>
<td>$4,400</td>
</tr>
<tr>
<td>P&amp;G</td>
<td>3.8%</td>
<td>4.0%</td>
<td>$1,665</td>
</tr>
<tr>
<td>Kimberly-Clark</td>
<td>1.9%</td>
<td>2.0%</td>
<td>$281</td>
</tr>
<tr>
<td>Mead-Westvaco</td>
<td>0.9%</td>
<td>1.2%</td>
<td>$71</td>
</tr>
<tr>
<td>International Paper</td>
<td>0.3%</td>
<td>0.3%</td>
<td>$73</td>
</tr>
<tr>
<td>Weyerhaeuser</td>
<td>0.3%</td>
<td>0.4%</td>
<td>$51</td>
</tr>
<tr>
<td>Smurfit-Stone</td>
<td>0.1%</td>
<td>0.1%</td>
<td>$5</td>
</tr>
</tbody>
</table>

Source: Company Annual Reports
The Innovation Shutdown

The Level of Paper Company Patent Activity Is Generally Low (Less Than 3.5% = Erosion)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel</td>
<td>7,075</td>
<td>606</td>
<td>8.6%</td>
</tr>
<tr>
<td>P&amp;G</td>
<td>6,304</td>
<td>889</td>
<td>14.1%</td>
</tr>
<tr>
<td>Kimberly-Clark</td>
<td>2,849</td>
<td>392</td>
<td>13.8%</td>
</tr>
<tr>
<td>Microsoft</td>
<td>2,801</td>
<td>798</td>
<td>28.5%</td>
</tr>
<tr>
<td>Mead-Westvaco</td>
<td>2,096</td>
<td>37</td>
<td>1.8%</td>
</tr>
<tr>
<td>Coca-Cola Corp.</td>
<td>799</td>
<td>13</td>
<td>1.6%</td>
</tr>
<tr>
<td>IP</td>
<td>750</td>
<td>14</td>
<td>1.9%</td>
</tr>
<tr>
<td>GP</td>
<td>582</td>
<td>39</td>
<td>6.7%</td>
</tr>
<tr>
<td>U.S. Steel</td>
<td>505</td>
<td>2</td>
<td>0.4%</td>
</tr>
<tr>
<td>Weyerhaeuser</td>
<td>497</td>
<td>79</td>
<td>15.9%</td>
</tr>
<tr>
<td>Smurfit-Stone</td>
<td>160</td>
<td>2</td>
<td>1.3%</td>
</tr>
<tr>
<td>Bowater</td>
<td>16</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Nucor</td>
<td>11</td>
<td>-</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Source: U.S. PTO
# The Innovation Shutdown

The Quality of The Paper Industry’s Intangibles Is Very Low

<table>
<thead>
<tr>
<th>Company</th>
<th>IP &amp; Intangible Value % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coca-Cola Corp.</td>
<td>84%</td>
</tr>
<tr>
<td>Microsoft</td>
<td>80%</td>
</tr>
<tr>
<td>P&amp;G</td>
<td>78%</td>
</tr>
<tr>
<td>Intel</td>
<td>66%</td>
</tr>
<tr>
<td>Kimberly-Clark</td>
<td>60%</td>
</tr>
<tr>
<td>Mead-Westvaco</td>
<td>25%</td>
</tr>
<tr>
<td>Nucor</td>
<td>9%</td>
</tr>
<tr>
<td>Weyerhaeuser</td>
<td>5%</td>
</tr>
<tr>
<td>International Paper</td>
<td>-2%</td>
</tr>
<tr>
<td>Bowater</td>
<td>-7%</td>
</tr>
<tr>
<td>Smurfit-Stone</td>
<td>-9%</td>
</tr>
<tr>
<td>GP</td>
<td>-20%</td>
</tr>
<tr>
<td>U.S. Steel</td>
<td>-122%</td>
</tr>
</tbody>
</table>

Source: VRG, equals (Total Market Value Less Total Invested Capital) / Total Market Value
The Innovation Shutdown

Management Doesn’t Think The Industry Is Innovative

Source: VRG phone survey
The Innovation Shutdown

Yet -- Management Perceives *Their Own Companies’ To Be Better Than Average*

Source: VRG phone survey
The Innovation Shutdown
And They Believe Themselves To Be Relatively Successful When They Innovate

Survey Question: How successful have your innovations been?

Source: VRG phone survey

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Median</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success</td>
<td>2.7</td>
<td>2.5</td>
<td>4.5</td>
<td>2.0</td>
</tr>
</tbody>
</table>

1= Least Successful, 5=Most

Source: VRG phone survey
Restarting The Innovation Machine
Restarting The Innovation Machine

Creativity involves breaking out of established patterns in order to look at things differently. - Edward De Bono -

Creativity is the sudden cessation of stupidity. - Edwin H. Land -
Restarting The Innovation Machine

- The chance of the entire industry rediscovering innovation *is unlikely*
- Changes have and will happen *at individual companies*
- There are many things we can do, both grandiose and pedestrian -- *to capture value through Innovation.*
Restarting The Innovation Machine

**Keys To Innovation:**

1. **Open Our Culture**

2. **Become Investors**

3. **Get Intellectual**
Restarting The Machine

1. Open Our Culture:

Typical Culture Stifles Innovation:

- The norms and attitudes that are required to excel in execution are damaging to innovation.

- Desiring and rewarding innovation does not necessarily increase its appearance.

- Motivation may drive variations on a theme but is unlikely to generate major changes in perspective or reformulation.
Restarting The Machine

1. Open Our Culture (Continued):

There are three major sources of innovation that work alone or in combination.

- **Innovation From The Top**
  - i.e. Visionary leaders like Steve Wynn – Mirage Resorts

- **Innovation From Within**
  - i.e. creative organizations or cultures like 3M

- **Innovation From Without**
  - Example: Teaming with others, venture development spin-outs

This is the area where we typically have the greatest impact.
Restarting The Innovation Machine

1. Open Our Culture (Continued):
To become “Creative From Within”, open your culture to Innovation oriented practices.

<table>
<thead>
<tr>
<th>Practices That Drive Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decide to do something that will probably fail, then convince everyone else that success is certain.</td>
</tr>
<tr>
<td>Reward success and failure; punish inaction</td>
</tr>
<tr>
<td>Take your past successes and forget them</td>
</tr>
<tr>
<td>Seek out ways to avoid, distract and bore customers, critics and anyone who just wants to talk about money.</td>
</tr>
<tr>
<td>Find some happy people and get them to fight.</td>
</tr>
</tbody>
</table>

### Restarting The Innovation Machine

1. **Open Our Culture (Continued):**

<table>
<thead>
<tr>
<th>Practices That Drive Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hire <em>slow learners</em> of the organizational code.</td>
</tr>
<tr>
<td>Hire people who make you <em>uncomfortable</em>, even those you dislike.</td>
</tr>
<tr>
<td>Encourage people to ignore and <em>defy</em> their bosses and peers.</td>
</tr>
<tr>
<td>Ignore people who <em>have solved</em> the exact problem you face.</td>
</tr>
<tr>
<td>Hire people you probably <em>don’t need</em>.</td>
</tr>
</tbody>
</table>

Innovative companies and teams are inefficient and often annoying places to work.

1. Open Our Culture (Continued):

The actions required to build and protect your intellectual property are complex – training is essential for personnel all across the organization:

- Sales
- Marketing
- Product Development
- Technology
- General Management
- Legal (if you don’t have Patent Counsel)
Restarting The Innovation Machine

1. Open Our Culture (Continued):

Consider innovation *in many different areas*:

- Product – main focus today
- Service
- Market
- Process
- Strategy
- Organization
- Supply Chain
- Commercial and Financial
Restarting The Innovation Machine

2. **Become Investors:**

An Investment Mentality Is Required:

- Capital spending ≠ Investment
- Investment = spending with a *potential to generate returns beyond the current period* (i.e. training, R&D, trade secret, patent, trademark, etc.)
- Just because accountants expense it *doesn’t mean it’s not an investment.*
2. **Become Investors** (Continued):

- Investors are *portfolio* managers
- They mix a number of investments (projects) with a *range* of correlations, risks and expected returns
- They focus on the *return and risk* of their overall portfolio – *not the individual investments*
2. Become *Investors* (Continued):

- Industry Focused On Low Risk, Low Return, Highly Correlated Projects
- Intellectual Property
- Intangible Assets
- Tangible Assets
- Working Capital
- Cash

Expected Portfolio Return

Risk
2. Become Investors (Continued):

- Raising The Bar Requires Industry’s Focus On A Mix of Projects With Enriched Balance Of Risk & Returns

- Intellectual Property

- Intangible Assets

- Working Capital

- Tangible Assets

- Cash

- Risk

- Expected Portfolio Return

- Cash

- Tangible Assets

- Working Capital

- Intangible Assets

- Intellectual Property

- Raising The Bar Requires Industry’s Focus On A Mix of Projects With Enriched Balance Of Risk & Returns

- Risk

- Expected Portfolio Return

- Cash

- Tangible Assets

- Working Capital

- Intangible Assets

- Intellectual Property

- Raising The Bar Requires Industry’s Focus On A Mix of Projects With Enriched Balance Of Risk & Returns

- Risk

- Expected Portfolio Return

- Cash

- Tangible Assets

- Working Capital

- Intangible Assets

- Intellectual Property

- Raising The Bar Requires Industry’s Focus On A Mix of Projects With Enriched Balance Of Risk & Returns

- Risk
3. **Get Intellectual:**

*Intellectual Property Is Required:*

“Intellectual property is the central resource for creating wealth (value) in almost all industries. The foundation of commercial power has shifted from capital resources to intellectual property. In fact … capital resources are now dominated by intellectual property such as know-how, patents, trademarks, copyrights and trade secrets.”

-- Gordon Smith & Russell Par --
3. **Get Intellectual (Continued) – The Reality --**

- Low cost overseas competition probably precludes a *low cost* U.S. paper strategy long-term
- Creating and exploiting legal monopolies in technologies, products and processes in conjunction with non-proprietary assets *creates value*
- Focus more heavily on high-impact Patents, Trade Secrets, Rights & Relationships
- Paradigm shifting breakthroughs *are not necessary!*
3. Get *Intellectual* (Continued):

- **Example:** A child’s disposable diaper has some 1,800 patents
- The assets used to exploit these patents (tissue machines, converting equipment) *are largely commodity in nature*
- Leading diaper producer’s returns *are well above paper industry average* and their cost of capital
- Paragon Trade Brand’s *infringement of one* of these 1,800 patents resulted in greater than a *$300MM damages* award
Restarting The Innovation Machine

3. Get Intellectual (Continued):

Technology Pushed Inventing

Technologists

Patent Attorney’s

Product Developers & Financial Experts

Marketer

Traditional Technology Pushed Inventing -- Results In A Low Hit Rate on Value Creating Intellectual Property
3. *Get Intellectual* (Continued):

Market Driven Inventing Increases The Odds That Your Innovation Will Yield Value – Whether it is a product, service, process, organization or strategy innovation … but still likely takes years to yield results.

- Market Driven Inventing
- Marketer
- Product Developers
- Marketer
3. Get Intellectual (Continued):

- **Valuation and Portfolio Management Tools**
  now exist to measure and manage the value created through innovation programs.

- The financial benefit, risk, and target cost of R&D programs can be quantified with such tools as:
  - Option Approaches to Patent Valuation
  - Market Simulation
  - Competitive Simulation
Recap & Final Thoughts
Recap & Final Thoughts

- Innovation is imperative to create value
- *Typical* North American pulp and paper companies have *shutdown or lost* their innovative capacity
- As a result, in part, *industry performance has been dismal* by most measures
- Investment has spiraled downward and industry *competitiveness has eroded*
- *However, individual paper companies and suppliers* can leverage innovation to outperform *the industry and create value over time*
Recap & Final Thoughts

How?

- **Open Up Our Culture** – accept that innovative companies are often inefficient and annoying places to work. Reward risk and failure, punish inactivity. Focus on more than just product development. *Train key participants on process to create and protect IP.*

- **Become Investors** – manage a portfolio of projects with a diverse range of expected returns, risks and correlations. Do all that you can to make each project a success but keep in mind that *it’s the overall portfolio performance that matters.*
Recap & Final Thoughts

How?

- **Get Intellectual** – Intellectual Property (IP) is the key to creating value. A *small dose of IP mixed with commodity assets can go a long way* . . .
  
  ✓ Leverage Market Driven Inventing to *increase hit-rate* . . .
  
  ✓ Use *best available Valuation and Portfolio management tools* to ensure financial success . . .
Recap & Final Thoughts

*The essential part of creativity is not being afraid to fail.* - Edwin H. Land -

*If all else fails, immortality is guaranteed by one humongous error.* - Anonymous -
Recap & Final Thoughts

Thank You! -- Copies Available At

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