Dow Chemical vs. E.I. du Pont de Nemours
The Consultants

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Oksana Martova
Matt Trushell
Background

- Founded in 1897 by Herbert Henry Dow (pictured)
- Stock is publicly traded on the NYSE (DOW)
- Headquarters is located in Midland, Michigan
- 3rd best chemical company in the world (2013)
- Subsidiaries include Rohm & Haas
Inventions

Ziploc bags

Scrubbing Bubbles Bathroom Cleaner

Styrofoam

Saran wrap
Background

- founded in 1802 by Éleuthère Irénée du Pont (pictured)
- stock is publicly traded on the NYSE (DD)
- headquarters is located in Wilmington, Delaware
- 9th best chemical company in the world
Inventions

- Teflon
- Tyvek
- Lycra
- Kevlar
Business Model

Dow
- Six business segments
- 1. Performance Plastics
- 2. Performance Materials
- 3. Feedstocks and Energy
- 4. Agricultural Sciences
- 5. Coatings and Infrastructure Solutions

DuPont
- Eight business segments
- 1. Agriculture
- 2. Performance Chemicals
- 3. Performance Materials
- 4. Safety and Protection
- 5. Nutrition and Health
- 6. Electronics and Communications
- 7. Industrial Biosciences
- 8. Pharmaceuticals
Distribution of Dow Chemical’s revenue in 2014 by segment

- Performance Plastics: 22,386
- Performance Materials & Chemicals: 15,114
- Infrastructure Solutions: 8,429
- Agricultural Sciences: 7,290
- Consumer Solutions: 4,639
<table>
<thead>
<tr>
<th>Business Segments</th>
<th>(Dec. 30, 2014) Revenues (in millions $)</th>
<th>IV. Quarter % (of total Revenues)</th>
<th>(Dec. 30, 2014) Income (in millions $)</th>
<th>IV. Quarter % (Profit Margin)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Plastics</td>
<td>5,465.00</td>
<td>37.99 %</td>
<td>1,194.00</td>
<td>21.85 %</td>
</tr>
<tr>
<td>Performance Chemicals</td>
<td>3,912.00</td>
<td>27.2 %</td>
<td>636.00</td>
<td>16.26 %</td>
</tr>
<tr>
<td>Agricultural Sciences</td>
<td>1,856.00</td>
<td>12.9 %</td>
<td>222.00</td>
<td>11.96 %</td>
</tr>
<tr>
<td>Other</td>
<td>68.00</td>
<td>0.47 %</td>
<td>0.00</td>
<td>-</td>
</tr>
<tr>
<td>Electronic &amp; Specialty Materials</td>
<td>1,124.00</td>
<td>7.81 %</td>
<td>325.00</td>
<td>28.91 %</td>
</tr>
<tr>
<td>Coatings &amp; Infrastructure</td>
<td>1,959.00</td>
<td>13.62 %</td>
<td>-104.00</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>14,384.00</td>
<td>100 %</td>
<td>2,273.00</td>
<td>15.8 %</td>
</tr>
</tbody>
</table>
Growth rates of Revenue and Income by Segment (Dow)

<table>
<thead>
<tr>
<th>Growth rates by Segment</th>
<th>(Dec. 30, 2014) Y/Y Revenue %</th>
<th>IV Quarter Q/Q Revenue %</th>
<th>(Dec. 30, 2014) Y/Y Income %</th>
<th>IV. Quarter Q/Q Income %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Plastics</td>
<td>41.76 %</td>
<td>39.27 %</td>
<td>-26.16 %</td>
<td>-6.35 %</td>
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<tr>
<td>Performance Chemicals</td>
<td>15.36 %</td>
<td>9.49 %</td>
<td>59.8 %</td>
<td>25.69 %</td>
</tr>
<tr>
<td>Agricultural Sciences</td>
<td>4.62 %</td>
<td>31.62 %</td>
<td>25.42 %</td>
<td>4340 %</td>
</tr>
<tr>
<td>Other</td>
<td>-4.23 %</td>
<td>-1.45 %</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Electronic &amp; Specialty Materials</td>
<td>-0.53 %</td>
<td>-0.26 %</td>
<td>43.81 %</td>
<td>1.56 %</td>
</tr>
<tr>
<td>Coatings &amp; Infrastructure</td>
<td>12.72 %</td>
<td>6.12 %</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>-0.01 %</td>
<td>-0.15 %</td>
<td>-17.91 %</td>
<td>-11.83 %</td>
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</table>
DuPont’s revenues from 2011 to 2014 by Segment
### Revenue by Segment (cont.)

<table>
<thead>
<tr>
<th>Segment</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition &amp; Health</td>
<td>2.5</td>
<td>3.4</td>
<td>3.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Electronics and Communications</td>
<td>3.2</td>
<td>2.7</td>
<td>2.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Industrial Biosciences</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Other*</td>
<td>0.7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Revenue in billion U.S. dollars

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Revenue, Income, and Profit Margin by Segment (DuPont)

<table>
<thead>
<tr>
<th>Business Segments</th>
<th>(March 31, 2015) Revenues (in millions $)</th>
<th>I. Quarter % (of total Revenues)</th>
<th>(March 31, 2015) Income (in millions $)</th>
<th>I. Quarter % (Profit Margin)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>3,937.00</td>
<td>42.93 %</td>
<td>1,174.00</td>
<td>29.82 %</td>
</tr>
<tr>
<td>Coatings &amp; Color Technologies</td>
<td>1,335.00</td>
<td>14.56 %</td>
<td>89.00</td>
<td>6.67 %</td>
</tr>
<tr>
<td>Electronic &amp; Communication Technologies</td>
<td>517.00</td>
<td>5.64 %</td>
<td>2.00</td>
<td>0.39 %</td>
</tr>
<tr>
<td>Performance Materials</td>
<td>1,381.00</td>
<td>15.06 %</td>
<td>129.00</td>
<td>9.34 %</td>
</tr>
<tr>
<td>Safety &amp; Protection</td>
<td>908.00</td>
<td>9.9 %</td>
<td>327.00</td>
<td>36.01 %</td>
</tr>
<tr>
<td>Nutrition &amp; Health</td>
<td>613.00</td>
<td>8.86 %</td>
<td>129.00</td>
<td>15.87 %</td>
</tr>
<tr>
<td>Industrial Biosciences</td>
<td>280.00</td>
<td>3.05 %</td>
<td>85.00</td>
<td>30.36 %</td>
</tr>
<tr>
<td>Total</td>
<td>9,171.00</td>
<td>100 %</td>
<td>2,119.00</td>
<td>23.11 %</td>
</tr>
</tbody>
</table>
## Growth rates of Revenue and Income by Segment (DuPont)

<table>
<thead>
<tr>
<th>Growth rates by Segment</th>
<th>(March 31, 2015)</th>
<th>I. Quarter</th>
<th>(March 31, 2015)</th>
<th>I. Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Y/Y Revenue %</td>
<td>Q/Q Revenue %</td>
<td>Y/Y Income %</td>
<td>Q/Q Income %</td>
</tr>
<tr>
<td>Agriculture</td>
<td>-10.4 %</td>
<td>127.31 %</td>
<td>-18.59 %</td>
<td>138.62 %</td>
</tr>
<tr>
<td>Coatings &amp; Color Technologies</td>
<td>-12.86 %</td>
<td>-14.64 %</td>
<td>-55.5 %</td>
<td>-60.62 %</td>
</tr>
<tr>
<td>Electronic &amp; Communication Technologies</td>
<td>-10.86 %</td>
<td>-9.77 %</td>
<td>-97.33 %</td>
<td>-97.53 %</td>
</tr>
<tr>
<td>Performance Materials</td>
<td>-13.31 %</td>
<td>-5.48 %</td>
<td>-56.86 %</td>
<td>-50.76 %</td>
</tr>
<tr>
<td>Safety &amp; Protection</td>
<td>-4.12 %</td>
<td>-3.71 %</td>
<td>86.86 %</td>
<td>73.94 %</td>
</tr>
<tr>
<td>Nutrition &amp; Health</td>
<td>-5.57 %</td>
<td>-3.56 %</td>
<td>38.71 %</td>
<td>72 %</td>
</tr>
<tr>
<td>Industrial Biosciences</td>
<td>-6.98 %</td>
<td>-13.04 %</td>
<td>51.79 %</td>
<td>123.68 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>-10.17 %</strong></td>
<td><strong>23.28 %</strong></td>
<td><strong>-5.74 %</strong></td>
<td><strong>72.28 %</strong></td>
</tr>
</tbody>
</table>

*Note: The data represents growth rates for the fiscal year ending March 31, 2015.*
Who has the edge in the Business Model aspect?
Financial information

• 1. Performance and financial ratios
• 2. Earnings per share---BEPS and DEPS
• 3. Debt to equity ratio
## Performance and financial ratio

<table>
<thead>
<tr>
<th></th>
<th>Dow</th>
<th>DuPont</th>
<th>1. Dow clearly has larger revenue. However, DuPont has larger gross profit.</th>
<th>2. DuPont has a higher profit margin as well as return on equity than Dow.</th>
<th>3. Both of the two companies have an acceptable debt to equity ratio.</th>
<th>4. DuPont had a higher DEPS last year.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>56.08B</td>
<td>33.95B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross profit</td>
<td>10.70B</td>
<td>13.02B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating margin</td>
<td>10.34%</td>
<td>12.83%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profit margin</td>
<td>7.49%</td>
<td>9.48%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on asset</td>
<td>5.29%</td>
<td>5.80%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on equity</td>
<td>16.73%</td>
<td>21.92%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debt to equity ratio</td>
<td>1.97</td>
<td>1.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diluted EPS</td>
<td>3.28</td>
<td>3.50</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
If we consider their performance in the past ten years...

### Dow

<table>
<thead>
<tr>
<th>Financials</th>
<th>2008-12</th>
<th>2009-12</th>
<th>2010-12</th>
<th>2011-12</th>
<th>2012-12</th>
<th>2013-12</th>
<th>2014-12</th>
<th>TTM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue USD Mll</td>
<td>46,307</td>
<td>49,124</td>
<td>53,513</td>
<td>57,514</td>
<td>44,875</td>
<td>53,674</td>
<td>59,985</td>
<td>66,706</td>
</tr>
<tr>
<td>Gross Margin %</td>
<td>17.3</td>
<td>15.5</td>
<td>13.3</td>
<td>9.6</td>
<td>12.8</td>
<td>14.7</td>
<td>14.9</td>
<td>15.8</td>
</tr>
<tr>
<td>Operating Income USD Mll</td>
<td>5,244</td>
<td>4,120</td>
<td>3,237</td>
<td>953</td>
<td>460</td>
<td>2,947</td>
<td>3,995</td>
<td>2,904</td>
</tr>
<tr>
<td>Operating Margin %</td>
<td>11.3</td>
<td>8.4</td>
<td>6.0</td>
<td>1.7</td>
<td>1.1</td>
<td>5.5</td>
<td>6.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Net Income USD Mll</td>
<td>4,515</td>
<td>3,724</td>
<td>2,087</td>
<td>579</td>
<td>648</td>
<td>2,210</td>
<td>2,742</td>
<td>1,182</td>
</tr>
<tr>
<td>Earnings Per Share USD</td>
<td>4.62</td>
<td>3.82</td>
<td>2.99</td>
<td>0.62</td>
<td>0.32</td>
<td>1.72</td>
<td>2.05</td>
<td>0.70</td>
</tr>
<tr>
<td>Dividends USD</td>
<td>1.34</td>
<td>1.50</td>
<td>1.64</td>
<td>1.68</td>
<td>0.80</td>
<td>0.60</td>
<td>0.90</td>
<td>1.21</td>
</tr>
<tr>
<td>Payout Ratio %</td>
<td>29.3</td>
<td>36.9</td>
<td>54.7</td>
<td>272.5</td>
<td>272.7</td>
<td>34.9</td>
<td>32.5</td>
<td>169.1</td>
</tr>
<tr>
<td>Shares Mll</td>
<td>977</td>
<td>974</td>
<td>986</td>
<td>939</td>
<td>1,054</td>
<td>1,144</td>
<td>1,150</td>
<td>1,176</td>
</tr>
<tr>
<td>Book Value Per Share USD</td>
<td>15.16</td>
<td>17.53</td>
<td>20.62</td>
<td>14.63</td>
<td>14.39</td>
<td>15.28</td>
<td>17.01</td>
<td>14.03</td>
</tr>
<tr>
<td>Operating Cash Flow USD Mll</td>
<td>4,474</td>
<td>4,154</td>
<td>4,084</td>
<td>4,711</td>
<td>4,075</td>
<td>4,102</td>
<td>3,079</td>
<td>4,075</td>
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<tr>
<td>Cap Spending USD Mll</td>
<td>-1,597</td>
<td>-1,983</td>
<td>-2,105</td>
<td>-2,339</td>
<td>-2,123</td>
<td>-2,175</td>
<td>-2,030</td>
<td>-2,614</td>
</tr>
<tr>
<td>Free Cash Flow USD Mll</td>
<td>2,877</td>
<td>2,171</td>
<td>2,379</td>
<td>2,972</td>
<td>-48</td>
<td>1,927</td>
<td>1,049</td>
<td>1,461</td>
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<tr>
<td>Free Cash Flow Per Share USD</td>
<td>3.21</td>
<td>2.02</td>
<td>1.46</td>
<td>2.53</td>
<td>-0.05</td>
<td>1.68</td>
<td>0.95</td>
<td>1.24</td>
</tr>
<tr>
<td>Working Capital USD Mll</td>
<td>6,741</td>
<td>6,608</td>
<td>6,209</td>
<td>2,952</td>
<td>6,494</td>
<td>9,885</td>
<td>9,788</td>
<td>12,191</td>
</tr>
</tbody>
</table>

### DuPont

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue USD Mll</td>
<td>20,491</td>
<td>20,892</td>
<td>20,370</td>
<td>20,529</td>
<td>27,328</td>
<td>32,733</td>
<td>38,719</td>
<td>35,310</td>
<td>36,144</td>
<td>36,046</td>
<td>35,271</td>
</tr>
<tr>
<td>Gross Margin %</td>
<td>30.9</td>
<td>29.5</td>
<td>26.6</td>
<td>21.1</td>
<td>27.9</td>
<td>29.3</td>
<td>28.1</td>
<td>27.6</td>
<td>37.6</td>
<td>39.8</td>
<td>39.7</td>
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<tr>
<td>Operating Income USD Mll</td>
<td>4,001</td>
<td>3,709</td>
<td>2,986</td>
<td>1,460</td>
<td>2,184</td>
<td>3,711</td>
<td>4,282</td>
<td>4,072</td>
<td>3,937</td>
<td>5,368</td>
<td>5,148</td>
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<tr>
<td>Operating Margin %</td>
<td>14.0</td>
<td>13.1</td>
<td>9.9</td>
<td>4.8</td>
<td>8.0</td>
<td>11.1</td>
<td>11.5</td>
<td>11.9</td>
<td>14.9</td>
<td>14.6</td>
<td>–</td>
</tr>
<tr>
<td>Net Income USD Mll</td>
<td>2,053</td>
<td>3,148</td>
<td>2,080</td>
<td>2,107</td>
<td>1,755</td>
<td>3,031</td>
<td>3,424</td>
<td>2,768</td>
<td>4,060</td>
<td>3,625</td>
<td>3,217</td>
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<tr>
<td>Earnings Per Share USD</td>
<td>2.07</td>
<td>3.38</td>
<td>3.22</td>
<td>2.20</td>
<td>1.92</td>
<td>3.28</td>
<td>3.66</td>
<td>2.95</td>
<td>5.18</td>
<td>3.92</td>
<td>3.49</td>
</tr>
<tr>
<td>Dividends USD</td>
<td>1.46</td>
<td>1.48</td>
<td>1.66</td>
<td>1.64</td>
<td>1.64</td>
<td>1.64</td>
<td>1.70</td>
<td>1.84</td>
<td>1.84</td>
<td>1.84</td>
<td>1.86</td>
</tr>
<tr>
<td>Payout Ratio %</td>
<td>65.3</td>
<td>57.1</td>
<td>47.2</td>
<td>74.5</td>
<td>84.9</td>
<td>49.9</td>
<td>44.5</td>
<td>65.1</td>
<td>61.4</td>
<td>54.2</td>
<td>51.5</td>
</tr>
<tr>
<td>Shares Mll</td>
<td>987</td>
<td>928</td>
<td>925</td>
<td>907</td>
<td>909</td>
<td>922</td>
<td>941</td>
<td>923</td>
<td>922</td>
<td>910</td>
<td>–</td>
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<tr>
<td>Operating Cash Flow USD Mll</td>
<td>2,542</td>
<td>3,736</td>
<td>4,290</td>
<td>3,129</td>
<td>4,741</td>
<td>4,559</td>
<td>5,152</td>
<td>4,949</td>
<td>3,712</td>
<td>4,016</td>
<td>2,650</td>
</tr>
<tr>
<td>Cap Spending USD Mll</td>
<td>-1,340</td>
<td>-1,532</td>
<td>-1,585</td>
<td>-1,978</td>
<td>-1,308</td>
<td>-1,608</td>
<td>-1,643</td>
<td>-1,793</td>
<td>-1,082</td>
<td>-2,020</td>
<td>-2,265</td>
</tr>
<tr>
<td>Free Cash Flow USD Mll</td>
<td>1,202</td>
<td>2,204</td>
<td>2,705</td>
<td>1,151</td>
<td>3,433</td>
<td>3,051</td>
<td>3,109</td>
<td>3,056</td>
<td>1,297</td>
<td>1,692</td>
<td>1,745</td>
</tr>
<tr>
<td>Free Cash Flow Per Share USD</td>
<td>1.10</td>
<td>2.06</td>
<td>2.92</td>
<td>1.27</td>
<td>3.78</td>
<td>3.31</td>
<td>3.33</td>
<td>3.24</td>
<td>1.14</td>
<td>1.98</td>
<td>–</td>
</tr>
<tr>
<td>Working Capital USD Mll</td>
<td>4,959</td>
<td>4,030</td>
<td>4,619</td>
<td>5,061</td>
<td>7,098</td>
<td>9,670</td>
<td>6,673</td>
<td>7,642</td>
<td>11,017</td>
<td>9,138</td>
<td>–</td>
</tr>
</tbody>
</table>
Main Points

• 1. Basically, Dow and DuPont are both experiencing growth for the past ten years.

• 2. The 2008 economic crisis had a huge impact on both of the two companies. Dow and DuPont had their lowest net income, operating margin and earnings per share around 2008.

• 3. Both Dow and DuPont are recovering from the crisis.
Debt to equity ratio

- Dow has a debt to equity ratio of 1.97 and DuPont has a debt to equity ratio of 1.80 in 2014.
- Usually we say that a debt to equity ratio of 1.5 to 2 would be considered acceptable in the chemicals industry. In this case, both of them have acceptable debt to equity ratios.
Who has the edge in the Financial Analysis aspect?
Earnings per share

- 1. DuPont did better in terms of BEPS and DEPS in 2014.
- 2. DuPont has a more stable earnings per share for the past three years, and Dow’s earnings per share fluctuated greatly. However, Dow had higher BEPS and DEPS in 2013.

<table>
<thead>
<tr>
<th></th>
<th>Dow</th>
<th>DuPont</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BEPS</td>
<td>DEPS</td>
</tr>
<tr>
<td>2012</td>
<td>0.71</td>
<td>0.70</td>
</tr>
<tr>
<td>2013</td>
<td>3.72</td>
<td>3.68</td>
</tr>
<tr>
<td>2014</td>
<td>2.91</td>
<td>2.87</td>
</tr>
</tbody>
</table>

Source: 10K and annual report
SUSTAINABILITY

➢ Why is this area important for the industry?
➢ Why is this a relevant measure of companies’ performance?
Industry History

➢ First environmental reports were published in the late 1980s by companies in the chemical industry which had serious image problems

➢ 1984 the massive chemical leak and subsequent contamination in Bhopal, India, are believed to have caused 20,000 deaths and left almost 600,000 people with permanent physical damage

➢ 2014 European Union moved to make sustainability reporting mandatory

“What Investors and Analysts Said?”

Social and community information

Information on natural resources

Governance information
DOW

1994: established 10-year goals for environment, health, and safety.

Sustainability as cost reduction

< 2 Billion

> 9.8 Billion

Sustainability as source of revenue

Sustainable Chemistry Index

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales of Sustainable Chemistry Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>3.40%</td>
</tr>
<tr>
<td>2010</td>
<td>4.30%</td>
</tr>
<tr>
<td>2014</td>
<td>10%</td>
</tr>
</tbody>
</table>
Dow’s Chemical Sustainability Footprint Tool

- A tool of risk estimation
- Evaluates the level of risk and company’s willingness to take it

As the old adage goes, business cannot manage what they do not measure

- A closed-loop system, which enables the sustainability maturity journey
Revenue growth of company as a whole

1:5

Revenue growth from products based on nondepletable resources

✓ No formal internally developed metrics index
✓ No continuous lifecycle tracing of a product

Corporate Environmental Planning:

1) Establish key performance indicators fit
2) Establish focus areas for performance
3) Identify environmental initiatives that align with business requirements and strategies
4) Costs and benefits analysis
5) Implementation of projects selected
“We used to live in a world where energy was cheap and information was expensive. Now, information is a resource that is becoming limitless, and energy and other environmental resources are becoming constrained.”

XBRL for sustainability-oriented reporting:

GRI has created a taxonomy for XBRL that incorporates the GRI Sustainability Reporting Guidelines in 2012.

Climate change taxonomy was released in 2014 to align environmental reporting models with those used for financial reporting and make data consistent with other sustainability frameworks, using XBRL such as the Global Reporting Initiative and the Dow Jones Sustainability Index.
Who has the edge in the Sustainability aspect?

✓ DOW - recognized in the S&P 500 Clean Capitalism and Fortune
✓ DOW – recognized by Dow Jones Sustainability World Index in 2014 for the 14th time since the index is launched
✓ ICIS 2014 survey *(most extensive survey to date of the chemical industry on the topic of sustainability and use of alternative feedstock)* – DOW 2nd, DuPont 3rd.

✓ DuPont has been mentioned in North America Dow Jones Sustainability Index
Regulations

- SASB - guidelines for disclosing material sustainability information
- Common disclosure topics:
  - Greenhouse emissions
  - Hazardous materials management
  - Employee health and safety
- Each company decides what is material to them
Regulation S-K

● Known trends or uncertainties with a material impact on sales or operations
● Item 101(c)(1)(xii) - costs of complying with environmental laws
● Item 103 - legal proceedings
● Item 503(c) - risk factors
Accounting Policies

● Liabilities related to litigation matters
  o Accrued when it is probable that liability has been incurred and can be reasonably estimated

● Legal costs
  o Expensed in the period in which they occur

● Environmental costs
  o Remediation and restoration costs are expensed
  o Costs which increase the value of the property or prevent future contamination are capitalized
Risk Factors

- Environmental Compliance
- Costs of compliance can have a negative impact
- Regulations change rapidly
Risk Factors (cont’d)

**Dow**
- $700 million accrued obligations for environmental and remediation costs
- Actual costs can be higher

**DuPont**
- Also liable for environmental and remediation costs
- Estimates are likely to change
Legal Proceedings - Dow

- **Union Carbide**
  - Asbestos lawsuits

- **Dow Benelux**
  - Foreign subsidiary fined Euro 1.8 million
  - Safety incidents and environmental spills
Legal Proceedings - DuPont

- Imprelis
  - $1.175 billion in total charges
  - $261 million in accruals
  - $210 million of insurance income
  - $35 million of insurance receivables
DuPont Legal Proceedings (cont’d)

● PFOA (perfluorooctanoic acids)
  ○ $14 million of accruals
  ○ More lawsuits expected

● 2014 gas leak
  ○ $99,000
  ○ OSHA claims incident could have been prevented
Who has the edge???
Agent Orange
Agent Orange

woman with chloracne

Major Tự Đức Phang
Agent Orange
"We are sympathetic with people who believe they have been injured and understand their concern to find the cause, but reliable scientific evidence indicates that Agent Orange is not the cause of serious long-term health effects."

- Jill Montgomery, Monsanto spokesman, 2004
Keep Toxic New Agent Orange GMOs off Your Plate!

The first generation of biotech crops has failed. And failed badly. Now the biotech industry is stepping up the chemical arms race in an effort to make up for the failure of Monsanto’s Roundup. Excessive use of Roundup by GMO farmers has led million of acres of U.S. farmland filled with Roundup resistant superweeds.

To combat this, Dow Chemical is petitioning the EPA and USDA to approve a new Enlist GMO "Agent Orange" corn and soy to tolerate 2,4-D, a main chemical component of the Vietnam era defoliants linked to birth defects, cancer, and hormone disruption, and glyphosate, the main chemical in Monsanto’s best selling weedkiller Roundup. On top of these horrific health problems, 2,4-D is widely known among farmers to be difficult to control during application, leading to drift onto neighboring farms, causing major crop damage and contaminating waterways.

These facts have greatly alarmed scientists and farmers alike, leading a former top Reagan USDA official to declare 2,4-D one of “the most dangerous chemicals out there.”

Tell the EPA to Dump Dow’s Dangerous New Enlist Agent Orange GMOs!
Agent Orange
Secret Science Reform Act of 2015

- would bar the EPA from issuing certain rules unless all relevant research is named and publicly available for those who want it

- bill contains provisions that would block enforcement of clean air and water regulations, limitations of hydraulic fracturing, or fracking, and limitations of mining natural gas on federal land
American Fuel and Petrochemical Manufacturers

- fully support the Secret Science Reform Act
- DuPont is a member of the AFPM
Who has the edge?
Corporate Governance

Shareholder Value & Dupont’s Proxy Battle
Trian Partners
Nelson Peltz

“Years of steady cash flow tend to dull companies’ entrepreneurial fire and focus on having best-in-class profit margins and revenue growth. Top-heavy corporate structures result, characterized by layer upon layer of bureaucracy anxious to justify their very existence. Accountability erodes as key decisions, such as where to spend research-and-development, capital expansion, marketing, and advertising dollars, devolve more and more from operating units to headquarters. Special constituencies and interest groups develop to subvert any attempt at zero-based, or what we at Trian call white-sheet, budgeting, in which every expense has to be justified as enhancing profitability and growth.”
Trian saw Dupont as a target:

- Underperformance relative to peers
- Complex business structure saddled with excess costs and bureaucracy
- Missed sales & earnings targets
- Posted sales & margins that underperformed competitors
- Critical of Dupont’s board’s method of calculating bonuses...saw bonuses out of line with company performance
Dupont’s Proxy Battle
Why not Dupont?

- Dupont’s operating margins rise from 9.5% in 2008 to 16.5% in 2014

- For the 6 years ending in 2014, DuPont had a total return for S&P 500 chemical company and 159% for S&P 500 index
Dupont’s Proxy Battle

Battle timeline

Privately:

- DuPont sells coating division for 5 billion
- Mid 2013 Trian’s investment in DD reported. 2.68% worth $1.8 B
- July 2013. DD CEO & CFO meet w Trian’s CIO & Matthew Peltz. CEO learns of Trian plan to break up DD into 4 parts. CEO gives Trian’s proposal to BOD
- DD CEO hires Investment banks Goldman Sachs & Evercore among others (law & PR firms) to help with fight
- September 2013. On behalf of DD, investment banks tell Trian that their cost-saving numbers don’t add up
- Oct 2013 Trian tells Kullman DD has 3 choices:
  1. Break up DD
  2. Put Trian CIO and Trian approved exec on DD BOD
  3. Face Proxy fight
Publicly:

- DD cancels meeting w Trian, rejects break up proposal & refuses Trian BOD addition
- Major DD investor calSTRS asks DD to find a common ground with Trian
- DD CEO and Trian meet. New proposal, break DD into 3 parts. Trian states Carlyle group was able to cut 100’s of millions in costs from previously sold coatings division
- February 2014 Fidelity asks Trian to try to settle a deal with DD
- 2014 deadline passes for Trian to file proxy nomination
- September 2014 – Trian goes public with break-up plan for DD. Kullman sells 35% of her DD stock
- October 2014 Kullman and Peltz have lunch together in NYC restaurant
- Fall 2014 Gallogly, CEO of chemical co LyondellBassell begins receiving recruitment calls from Peltz to join DD BOD. Says no repeatedly over time
- December 2014 – DD announces effort to sell Hotel DuPont. The hotel and golf course had been pointed out by Peltz as corporate excess. DuPont claims sale is part of Chemours spin-off
● Jan 2015 DD signs of on potential deal to add Gallogly and Breen (Tyco exec) to DD BOD

● News of Kullman’s stock sales published by WSJ

● Feb 2015 DD tells Peltz DD is willing to add Peltz candidate Gallogly and another to BOD is Peltz calls off proxy battle. Peltz refuses based on his not being offered BOD seat

● 2 days later Kullman announces new DD BOD members

● March 2015 Moody’s downgrades DuPont’s credit rating, fearing Peltz would force DuPont to take on more debt

● Trian files for Proxy vote

● Both Kullman and Peltz meet investors (campaigning)

● April 2015 ISS (Institutional Shareholder Services) advise DD shareholders to elect Peltz to BOD. DD rises 5%

● May 13 2015 Trian loses proxy contest, DD stock drops 7%, yet to recover
Dupont’s Proxy Battle

Results

Trian loses by close margin

If one of four major index fund investors had voted for Trian, Peltz would have won

University of Chicago economics professor speculates that because index fund also held investments in DuPont competitor Montsanto, Peltz election to Dupont would have driven down value of fund
Conclusion

- Overall, lines were drawn, sides were distinct
- Both sides said they were acting in interest of shareholders, but painted different pictures
- Activists can be good for ailing companies
- Activism tends to focus on ST financial goals resulting in increased share prices
- DuPont R&D would have been cut. Much innovation occurs at intersection of DuPont’s many businesses

Can’t optimize customer satisfaction and shareholder value simultaneously

This led to executives influencing earnings expectations. The positive results, be they via Goodwill, intangible assets (prior to FASB 142, Goodwill had to be written down over time on a fixed amortization schedule), are not sustainable. They are cyclical. Re Jack Welch or Roberto Goizueta

Drive customer satisfaction value a la Johnson & Johnson

Temptation is to drive long-term gains in operations driven value away for temporary gains in expectations driven value
Who has the edge?
Analytics Background

**Dow**
- Released report
- Tone at the top

**DuPont**
- Restructuring
- Spin off
What to look for

**Dow**
- C-level expenses
- “Consulting fees”

**DuPont**
- Lump expenses
- Liability dumping
Analytics

- What is R Studio?
- How to use?
  - Total accounts in error
  - Total errors in account
- Flexibility

```
> grd=seq(0.0001,0.15,length=11)
> smp=c(2,1,0)
> n=c(75,50,25)
> N=c(5000,3000,2000)
> as.numeric(quantile(simulateT(smp,n,N,grd,40000),0.95))
[1] 421
> ## out of 40000 accounts, 421 were found to have errors ##

> y=rnorm(500,5)
> x=y
dm=sample(1:500,50)
> x[dm]=x[dm]*runif(50,0.5)
> smp=sample(1:500,40)
> quantile(simulateD(y[smp],x[smp],y[-smp],48,1,10000),0.95)
  95%
350.6639
> ## out of 1000 sampled transactions, ~350 come back with errors ##
```
Analytics

- Use in tandem with R Studio
- Using the data
Who has the edge?

Given the background of both companies and the resources available to us, it would make the most sense for us to choose DuPont for Analytics for two reasons:

● Depth of potential fraud
● Relevance of software
Our client is...
Sources


Deepramo, Tom “Sustainability: Moving from compliance to leadership" Web. April 2015.