Integrated mills focused on each other... while competitors flew in from all sides.
CAPTURING VALUE GROWTH

Map Changing Customer Priorities

Identify New Business Designs

Compare Business Designs

Build New Business Designs to Capture Value Growth
• Value Migration
  – From 1984 to 1994, IBM and DEC lost $55 billion in market value
  – While Microsoft, Intel, EDS, and Novell were gaining $80 billion

• Competitive Analysis

• Recognizing Strategic Patterns
  – Map Changing Customer Priorities
  – Identify New Business Designs
  – Compare Business Designs
  – Build New Business Designs to Capture Value Growth
CHANGING CUSTOMER PRIORITIES

1994

1. Low systems costs
2. Engineering/design support

1. Lightweight
2. Corrosion resistance

1. Structural functionality
2. Minimum quality threshold
<table>
<thead>
<tr>
<th><strong>Manufacturing/Operating System</strong></th>
<th><strong>U.S. Integrated Mills</strong></th>
<th><strong>Minimills</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Blast furnace/basic oxygen furnace</td>
<td>Electric arc furnace</td>
<td></td>
</tr>
<tr>
<td>Iron ore as raw material</td>
<td></td>
<td>Scrap steel as raw material</td>
</tr>
<tr>
<td>In-house</td>
<td></td>
<td>Cooperative (piggyback on equipment manufacturers, universities)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Organizational Configuration</strong></th>
<th><strong>U.S. Integrated Mills</strong></th>
<th><strong>Minimills</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unionized labor</td>
<td></td>
<td>Nonunionized labor</td>
</tr>
<tr>
<td>High overhead</td>
<td></td>
<td>Incentive-based compensation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bare-bones overhead</td>
</tr>
</tbody>
</table>
VALUE MIGRATION STATUS, 1994

SOURCE: CDI Value Growth Database.
# Business Design

*U.S. Integrated Mills vs. Minimills*

<table>
<thead>
<tr>
<th></th>
<th>U.S. Integrated Mills</th>
<th>Minimills</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fundamental Assumptions</strong></td>
<td>The fully integrated, basic oxygen furnace method is the only way to produce high-quality steel economically.</td>
<td>Steel can be made economically in smaller quantities.</td>
</tr>
<tr>
<td><strong>Customer Selection</strong></td>
<td>Broad line, serving multiple segments of customers</td>
<td>Focus on construction in regional markets</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Full product line</td>
<td>Low-end construction products (rebar)</td>
</tr>
</tbody>
</table>
THE THREE STAGES OF VALUE MIGRATION

In the outflow stage, talent, resources, and customers leave at an accelerating rate.

- Competitive intensity
- Declining sales
- Low profits

Market Value/Revenue

Value Inflow | Value Stability | Value Outflow

- Limited competition
- High growth
- High profitability

- Competitive stability
- Stable market share
- Stable margins
SOURCES OF NEW PRODUCT IDEAS
COMMERCIAL AND INDUSTRIAL MARKETS

• Manufacturer active paradigm
  Traditional model
  Make and market
  Customer has to decide whether to adopt

• Customer active paradigm
  Customer develops prototype
  Seeks a reliable supplier
  Supplier has to decide go/no go

• Everybody knows
  Customers and marketers both know
  Waiting for the solution
  Who gets there first
NEW PRODUCT AND BUSINESS DEVELOPMENT PROCESS

**OPPORTUNITY ASSESSMENT**

- Idea
- Gate 1
  - Yes: Preliminary Investigation
  - No: Reconsider
- Gate 2
  - Yes: Detailed Investigation
  - No: Reconsider
- Gate 3
  - Yes

**DESIGN & DEVELOPMENT**

- Reconsider
- Product, System, and Program Specification
- Gate 4
  - Yes: Detailed Design & Prototype Development
  - No: Reconsider
- Gate 5
  - Yes: Testing & Validation
  - No: Reconsider
- Gate 6
  - Yes: Post-Entry Review
  - No: Reconsider
Many markets are dominated by two key competitors

<table>
<thead>
<tr>
<th>Targeted market</th>
<th>Top competitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-distance phone service</td>
<td>AT&amp;T</td>
</tr>
<tr>
<td>Lipid-regulating drugs</td>
<td>Merck</td>
</tr>
<tr>
<td>Instruments for endo-surgery</td>
<td>USSC</td>
</tr>
<tr>
<td>Razor blades</td>
<td>Gillette</td>
</tr>
<tr>
<td>Soap</td>
<td>P&amp;G</td>
</tr>
<tr>
<td>Carbonated soft drinks</td>
<td>Coca Cola</td>
</tr>
<tr>
<td>Aircraft engines</td>
<td>GE</td>
</tr>
<tr>
<td>Locomotives</td>
<td>GE</td>
</tr>
<tr>
<td>Power generation equipment</td>
<td>GE</td>
</tr>
<tr>
<td>Washers &amp; dryers</td>
<td>GE</td>
</tr>
<tr>
<td>Light bulbs</td>
<td>GE</td>
</tr>
<tr>
<td>Construction equipment</td>
<td>Caterpillar</td>
</tr>
<tr>
<td>Regional newspaper, Boston</td>
<td>Globe</td>
</tr>
</tbody>
</table>
Customer Tree: Plotter Markets