Strategy and the Management of Technology and Innovation

March 4/5, 2009

The S-Curve of Technological Progress

Key Activities in the Strategic Management Process

External and Internal Strategic Interactions
Levels of Strategy

Vision and Mission

Corporate Strategy — how the firm will accomplish its mission.

Business-Level Strategy — involves the setting of goals and objectives.

Functional-Level Strategy — designs tactics and jobs for accomplishing objectives.

External Environment

ANALYSIS OF EXTERNAL ENVIRONMENT

ECONOMIC, SOCIAL-CULTURAL, TECHNOLOGICAL, POLITICAL-Legal Factors

Market Analysis

Competitor Analysis

Community Analysis

Supplier Analysis

Interest Group Analysis

Government Analysis

Porter’s Five-Forces Model Plus

Rivalry among Competitors

Threat of New Entrants

Power of Buyers

Complementors

Power of Suppliers

Threat of Substitutes

Strategic Implementation Process

Information Needed

Understanding of the general environment
Analysis and understanding of the firms in the industry
Clearly articulated and well-understood strategy, goals, and long-term objectives
List of resources required and capabilities of the firm

Identify a gap or potential opportunity

Develop the plan to match goals, given our mission, goals, and objectives

Evaluate and Control

How have we done?
What have we learned?

Implementation

What to do—execute the plan
When to do it—prioritize activities
How to do it—with, them, or combination
 Technologies in the Value Chain

Characteristics of a Technology-Driven Corporate Cycle

<table>
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<th>Start-Up</th>
<th>Growth</th>
<th>Maturity</th>
<th>Decline</th>
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<tbody>
<tr>
<td>Type of Innovation</td>
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<tr>
<td>Original</td>
<td>Incremental</td>
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<tr>
<td>Stimulus of Innovation</td>
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<tr>
<td>User's needs; Feedback</td>
<td>Internal technical capability; cost and quality</td>
<td>Cost and quality improvement</td>
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<td>Competitive Emphasis</td>
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<td>New product performance</td>
<td>Some product change; Market shares and quality</td>
<td>Cost reduction; Standard products</td>
<td>Defensive; Protecionism</td>
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<td>Market</td>
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<tr>
<td>Market niches</td>
<td>Growth in the mass market</td>
<td>Market becoming saturated</td>
<td>Replacement markets</td>
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<td>Organization and Management</td>
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<td>Small; Flexible</td>
<td>Expanding; Highly organized</td>
<td>Rigid</td>
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