Chapter 5: Competitive Advantage, Firm Performance, and Business Models

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BA449
Chapter Case 5:
The Quest for Competitive Advantage
Apple vs. Microsoft
Chapter Case 5: Apple vs. Microsoft

- Apple and Microsoft: fierce rivals since the 1970’s
- Microsoft was the early leader:
  - Set the standard in personal computers
  - 90% of all PCs run Windows
  - Office Suite includes Word, Excel, PowerPoint, etc.
  - Implemented a successful approach for Corporations
    - E-mail systems, databases, and business applications
  - By 2000, Microsoft was the most valuable company globally
    - $510 billion in market capitalization
Chapter Case 5: Apple vs. Microsoft

• Apple overtook Microsoft
  – At Microsoft’s peak, Apple had only 5% of the market
    • Near bankruptcy in 1997
  – Underwent a revitalization
    • 2001: iPod released
    • 18 months later: iTunes released / retail stores open
    • 2007: iPhone released
    • 2010: iPad released
    • 2015: iWatch
  – Fall 2012: most valuable company in the world
    • Market capitalization: $620 billion

• Competitive advantage is dynamic
Chapter Case 5: Apple vs. Microsoft

• Microsoft is now in turnaround mode.
  – Prior focus: windows-only business model
  – New focus: “mobile-first, cloud-first”

• Main changes:
  – Office suite now available on Apple iOS / Android
  – Office 365 available as a subscription service
  – Software can be accessed on any device.
Chapter Case 5: Apple vs. Microsoft

• Microsoft’s CEO, Satya Nadella, has made drastic changes to Microsoft’s strategy. What was Microsoft’s strategy before Nadella was appointed CEO? Do you agree that Nadella has formulated a promising strategy? Why or why not?
Competitive Advantage and Firm Performance
How Do We Measure Performance?

• “The strategic aim of a business is to earn a return on capital, and if in any particular case the return in the long run is not satisfactory, then the deficiency should be corrected or the activity abandoned for a more favorable one.”

❖ Alfred P. Sloan
My Years with General Motors
Tradeoff Between Profitability and Growth Rate

Profitability

Growth Rate

\( P_{\text{MAX}} \)

\( P_1 \)

\( P_2 \)

\( G_0 \)

\( G_1 \)

\( G_2 \)
An Overview of Frameworks

• To measure and assess firm performance:
  – Accounting profitability
  – Shareholder value creation
  – Economic value creation

• Integrative frameworks, combining quantitative data with qualitative assessments:
  – The balanced scorecard
  – The triple bottom line
The Multidimensional Perspective for Assessing Competitive Advantage

- What is the firm’s accounting profitability?
- How much shareholder value does the firm create?
- How much economic value does the firm generate?
Accounting Profitability

• Helps assess competitive advantage:
  – Accurately assess firm performance.
  – Compare firm performance to competitors / the industry average.

• Standardized accounting metrics

• Form 10-K statements

• Profitability ratios:
  – Return on invested capital (ROIC), return on equity (ROE), return on assets (ROA), and return on revenue (ROR)

ROIC = (Net profits/Invested capital). ROIC is a popular metric because it is a good proxy for firm profitability. In particular, the ratio measures how effectively a company uses its total invested capital, which consists of two components: (1) shareholders’ equity through the selling of shares to the public, and (2) interest-bearing debt through borrowing from financial institutions and bond holders.
Comparing Apple and Microsoft (2014): Drivers of Firm Performance

Exhibit 5.1
SOURCE: Analysis of publicly available data.
Comparing Apple and BlackBerry
Mini-case #16 (pp. 469-474)

• Compare Apple’s and BlackBerry’s drivers for firm profitability for 2011 (see p.470 for 2012).

  – Calculate some key profitability, activity, leverage, liquidity, and market ratios for Apple and Blackberry.

  – What recommendations would you give the CEO of BlackBerry about actions that should be taken to improve performance?
Accounting Profitability

• Need to move beyond a “snapshot” metric
  ➢ Look at more than one year of data

• Permits direct firm performance comparisons
  ➢ Using standard ratios

• Competitive advantage is relative to competitors
  ➢ Examine firms in the same industry
  ➢ “Apples to apples” comparisons
Pfizer performance declines as Merck improves and takes the competitive advantage over this period.
Limitations of Accounting Data

• All accounting data are historical and thus backward-looking (in rear-view mirror)

• Accounting data do not consider off-balance sheet items, such as:
  – Pension obligations
  – Leasing obligations

• Accounting data focus mainly on tangible assets, which are no longer the most important.
Declining Importance of Book Value in Stock Valuation

Book Valuation as Part of Total Market Valuation, S&P 500

<table>
<thead>
<tr>
<th>Year</th>
<th>Book Value</th>
<th>Not Captured in Book Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>1990</td>
<td>55%</td>
<td>45%</td>
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<tr>
<td>2000</td>
<td>15%</td>
<td>85%</td>
</tr>
<tr>
<td>2002</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td>2010</td>
<td>30%</td>
<td>70%</td>
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</table>
## Firms with the Highest Ratios of Market Value to Book Value  
(December 2005)

<table>
<thead>
<tr>
<th>Company</th>
<th>Valuation ratio</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yahoo! Japan</td>
<td>72.0</td>
<td>Japan</td>
</tr>
<tr>
<td>Colgate-Palmolive</td>
<td>20.8</td>
<td>US</td>
</tr>
<tr>
<td>Glaxo Smith Kline</td>
<td>13.4</td>
<td>UK</td>
</tr>
<tr>
<td>Anheuser-Busch</td>
<td>12.6</td>
<td>US</td>
</tr>
<tr>
<td>eBay</td>
<td>11.2</td>
<td>US</td>
</tr>
<tr>
<td>SAP</td>
<td>10.8</td>
<td>Germany</td>
</tr>
<tr>
<td>Yahoo!</td>
<td>10.7</td>
<td>US</td>
</tr>
<tr>
<td>Dell Computer</td>
<td>10.0</td>
<td>US</td>
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<tr>
<td>Sumitomo Mitsui Financial</td>
<td>8.8</td>
<td>Japan</td>
</tr>
<tr>
<td>Procter &amp; Gamble</td>
<td>8.4</td>
<td>US</td>
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<tr>
<td>Qualcomm</td>
<td>8.3</td>
<td>US</td>
</tr>
<tr>
<td>Schlumberger</td>
<td>8.2</td>
<td>US</td>
</tr>
<tr>
<td>Unilever</td>
<td>8.1</td>
<td>Neth/UK</td>
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<tr>
<td>PepsiCo</td>
<td>8.0</td>
<td>US</td>
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</table>

<table>
<thead>
<tr>
<th>Company</th>
<th>Valuation ratio</th>
<th>Country</th>
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<tr>
<td>Coca-Cola</td>
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<td>Diageo</td>
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<tr>
<td>3M</td>
<td>7.3</td>
<td>US</td>
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<tr>
<td>Nokia</td>
<td>6.7</td>
<td>Finland</td>
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<td>Sanofi-Aventis</td>
<td>6.3</td>
<td>France</td>
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<td>AstraZeneca</td>
<td>5.9</td>
<td>UK</td>
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<tr>
<td>Johnson &amp; Johnson</td>
<td>5.7</td>
<td>US</td>
</tr>
<tr>
<td>Boeing</td>
<td>5.7</td>
<td>US</td>
</tr>
<tr>
<td>Eli Lily</td>
<td>5.6</td>
<td>US</td>
</tr>
<tr>
<td>Cisco Systems</td>
<td>5.5</td>
<td>US</td>
</tr>
<tr>
<td>Roche Holding</td>
<td>5.5</td>
<td>Switz.</td>
</tr>
<tr>
<td>L’Oreal</td>
<td>5.3</td>
<td>France</td>
</tr>
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<td>Altria</td>
<td>5.2</td>
<td>US</td>
</tr>
<tr>
<td>Novartis</td>
<td>5.1</td>
<td>Switz.</td>
</tr>
</tbody>
</table>
Google vs. Microsoft

• Google and Microsoft in multi-point competition

➢ How to measure success of this competition?
  ❖ Revenues and net income?
  ❖ Performance per employee?

• There are several ways to measure firm performance.
  • The key idea is to **triangulate** (i.e., to use multiple measures of performance to evaluate the health of the organization).
Comparing Google and Microsoft on Different Dimensions

Performance viewpoint changes significantly when the measurement changes from absolute to per-employee figures (on the bottom)
Top 10 Fortune 500 Companies by Profits ($M) in 2010

- ExxonMobil
- Microsoft
- Walmart
- Procter and Gamble
- IBM
- Goldman Sachs
- Merck
- AT&T
- Wells Fargo
- Johnson & Johnson
Top 10 Fortune 500 Companies by Return on Revenue (%) in 2010

Liberty Media
Bristol-Myers Squibb
Merck
Gilead Sciences
Corning
Visa
Amgen
MasterCard
Constellation Energy
Google

ROR measures the profit earned per dollar of revenue as a percentage.
A size-adjusted measure of profits.
Profits vs. Return on Revenue (ROR)

Ranking changes markedly with the use of different metrics

2010 Profits in $M

2010 ROR %
Linking Value Drivers to Performance Targets

Shareholder value creation ➔ ROCE ➔ Economic Profit ➔ Capital Turnover ➔ Margin ➔ Sales Targets ➔ cogs/sales ➔ Development Cost/Sales ➔ Inventory Turnover ➔ Capacity Utilization ➔ Cash Turnover

Order Size ➔ Customer Mix ➔ Sales/Account ➔ Customer Churn Rate ➔ Deficit Rates ➔ Cost per Delivery ➔ Maintenance cost ➔ New product development time ➔ Indirect/Direct Labor ➔ Customer Complaints ➔ Downtime ➔ Accounts Payable Time ➔ Accounts Receivable Time
Shareholder Value Creation

• **Shareholders**
  – Own one or more shares of stock in a company
  – The legal owners of public companies

• **Risk Capital**
  – Money provided for an equity share in a company
  – Cannot be recovered if the firm goes bankrupt

• **Total Return to Shareholders**
  – Stock price appreciation plus dividends

• **Market Capitalization**
  – Dollar value of total shares outstanding
  – Number of outstanding shares x share price
Limitations of Shareholder Value Creation

• Stock prices can be highly volatile.
  – Makes it difficult to assess firm performance

• Macroeconomic factors affect stock prices.
  – Economic growth or contraction
  – Unemployment, interest and exchange rates

• Stock prices can reflect the mood of investors.
  – Can be irrational (e.g., “Irrational exuberance”)
Economic Value Creation

• The difference between:
  – A buyer’s willingness to pay for a product / service
  – And the firm’s total cost to produce it
  – The difference between value (V) and cost (C)

• Competitive advantage can be based on:
  – Economic value creation because of superior product differentiation
  – A relative cost advantage over rivals
Firm B’s Competitive Advantage:
Same Cost as Firm A but Firm B Creates More Economic Value

Exhibit 5.4
Firm B’s advantage is based on superior differentiation leading to higher perceived value.
Firm C’s Competitive Advantage:
Same Total Perceived Consumer Benefits as Firm D, but Firm C Creates More Economic Value

Exhibit 5.5
Firm C has a competitive advantage over Firm D because it has lower costs.
Consumer and Producer Surplus

- **Consumer surplus**
  - The difference between what you would have been willing to pay (V) and what you paid (P)

- **Producer surplus** (also called profit)
  - The difference between the price charged (P) and the cost to produce (C)

- Both parties capture some of the value created
Competitive Advantage and Economic Value Created

\[ V \]
\[ (V - C) \]
\[ (V - P) \]
\[ (P - C) \]

- Total Perceived Consumer Benefits
- Consumer’s Maximum Willingness to Pay
- Reservation Price

- Economic Value Created

\[ C \]

- Firm’s Cost

\[ C \]

- Firm’s Cost

\[ P \] = Price

Exhibit 5.7
Economic Value Creation

- **Value**: A dollar amount a consumer is willing to pay for a good or service
- **Price**: The dollar amount a good or service is offered for sale
- **Cost**: The dollar amount to make the good or service

Pizza!
- **Value** = $12
- **Price** = $10
- **Cost** = $7

**Consumer Surplus**

$12 - $10 = $2

**Producer Surplus**

$10 - $7 = $3

**Economic Value**

$12 - $7 = $5

SOLD!
Economic Value Creation

• Opportunity Costs

➢ The next best alternative use for resources

➢ Pizza entrepreneur
  ✤ Wages $40,000 employment salary
  ✤ Capital invested $25,000 interest on capital

➢ If the restaurant made $60,000 in (accounting) profits…
  ✤ The owner actually had an economic LOSS of $5,000
Capital Market Approaches To Measuring Performance

• Market Value Added (MVA)
  ➢ Market Value less Total Investment

• Economic Value Added (EVA)
  ➢ Operating Profit (after tax) less annual capital costs; basically, this is economic profit

• Tobin’s q (Market Value/Book Value)
  ➢ A firm’s market value divided by its “replacement” cost

• The Market Value of the Firm -
  ➢ Current Value of all securities issued by the firm
Economic Value Added (EVA)

• Anheuser-Busch: Operating profit $1,756 million - taxes $617 million = $1,139 million

• WACC: 67% equity at 14.3%
  33% debt at 5.2%
  11.3% WACC

Capital of $8 billion

  11.3% * $8 billion = $904 million

$1,139 - $904 = $235 million EVA
How U.S. Companies Perform Under Different Profitability Measures, 1998

<table>
<thead>
<tr>
<th></th>
<th>Net Inc.</th>
<th>ROS</th>
<th>ROE</th>
<th>EVA</th>
<th>Market Value Added</th>
<th>Return to Shareholders</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>($m)</td>
<td>(%)</td>
<td>(%)</td>
<td>($m)</td>
<td>($m)</td>
<td>(%)</td>
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<tr>
<td>General Motors</td>
<td>2,956</td>
<td>1.8</td>
<td>19.7</td>
<td>-5,525</td>
<td>-17,943</td>
<td>21.4</td>
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<td>General Electric</td>
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<td>9.4</td>
<td>22.2</td>
<td>4,370</td>
<td>285,320</td>
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<td>Exxon</td>
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<td>6.3</td>
<td>14.6</td>
<td>-2,262</td>
<td>114,774</td>
<td>22.4</td>
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<tr>
<td>Philip Morris</td>
<td>5,450</td>
<td>10.3</td>
<td>39.0</td>
<td>5,180</td>
<td>98,657</td>
<td>64.8</td>
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<tr>
<td>IBM</td>
<td>6,328</td>
<td>7.7</td>
<td>32.6</td>
<td>2,541</td>
<td>-5,878</td>
<td>77.5</td>
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<td>Coca-Cola</td>
<td>3,533</td>
<td>18.8</td>
<td>42.0</td>
<td>2,194</td>
<td>157,356</td>
<td>1.3</td>
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<tr>
<td>Wal-Mart</td>
<td>4,430</td>
<td>3.2</td>
<td>21.0</td>
<td>1,159</td>
<td>159,444</td>
<td>107.7</td>
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<tr>
<td>Procter &amp; Gamble</td>
<td>3,780</td>
<td>10.2</td>
<td>12.2</td>
<td>61,161</td>
<td>102,379</td>
<td>15.9</td>
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<tr>
<td>Microsoft</td>
<td>4,490</td>
<td>31.0</td>
<td>27.0</td>
<td>3,776</td>
<td>328,257</td>
<td>37.5</td>
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<tr>
<td>Hewlett-Packard</td>
<td>2,945</td>
<td>6.3</td>
<td>17.4</td>
<td>-593</td>
<td>45,464</td>
<td>10.7</td>
</tr>
</tbody>
</table>
Sustainable Competitive Advantage and the Measurement of Performance

- While we have said that the objective of strategy is to “create competitive advantage,” specifically we have the goal to maximize economic return.

- Economic & Accounting Measures of Performance
  - Economic Profits
  - ROA, ROE, ROC

- Financial Measures Performance
  - NPV Methods

<table>
<thead>
<tr>
<th>Discounting Cash Flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPV = $\frac{CF_1}{1+r} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \ldots + \frac{CF_t}{(1+r)^t} + \frac{\text{Horizon Value}_{t+1}}{(1+r)^{t+1}}$</td>
</tr>
</tbody>
</table>

- NPV: Net Present Value
- $CF_t$: Cash Flow at time $t$
- $r$: Discount rate
- Horizon Value: Value of ongoing enterprise after time $t$
The principle of discounted cash flow (DCF) analysis that firms apply to their individual projects can also be applied to the firm as a whole. Maximizing the net present value (NPV) of the firm’s cash flow ("sustainable competitive advantage") corresponds to maximization of its stock market valuation and hence maximizes the wealth of its shareholders.

\[
NPV = \sum_{t=1}^{T} \frac{C_t}{(1+r)^t} - C_0
\]
Net Cash Flow

- EBT - t (EBT)
- EBT (1-t) = NET INCOME
- EBT (1-t) + depreciation - capital expenditures = NET CASH FLOW
  ❖ (note we are assuming no change in accounts receivable, no change in net working capital, no change in inventory)

- Equivalent concepts:
  - Maximize NPV
  - DCF Approach
  - Maximize Economic Profits (EVA)
  - Sustainable Competitive Advantage (SCA)
Limitations of Present Value Measures

- Projections are only as good as the ability of managers to measure accurately the financial consequences of actions.

- An implicit assumption of value-based strategy was that business units and all investment proposals were self-contained. It was usually expected that divesting a business or curtailing an investment project would have no financial repercussions elsewhere in the corporation (e.g., ignores knowledge transfers).

- Strict financial measurement of many long-term investments, particularly in intangible assets, is virtually impossible.
Limitations of Present Value Measures

• Investments in R&D typically do not offer direct returns; their economic value is a strategic option to invest in new products and processes that may arise from R&D. Narrowly-defined DCF does not accurately value investments where there is significant strategic/real options value.

➢ (Merck has been at the forefront of applying strategic/real options theory to analyze investments in R&D).
The Balanced Scorecard Approach

Exhibit 5.8
The Four Perspectives of the Balanced Scorecard

- **Financial**
  - EVA
  - Profitability
  - Growth

- **Customer**
  - Differentiation
  - Cost
  - Quick Response

- **Operations**
  - Product Development
  - Demand Management
  - Order Fulfillment

- **Organizational**
  - Leadership
  - Organizational Learning
  - Ability to Change
Advantages of the Balanced Scorecard

Managers can:

• Link the strategic vision to responsible parties
• Translate the vision into measurable goals
• Design and plan business processes
• Implement feedback and organizational learning
  – Modify and adapt strategic goals
Disadvantages of the Balanced Scorecard

- Focused on strategy implementation
  - Not formulation
- Limited guidance about which metrics to use
- Only as useful as the managers apply it
- Strategy must be translated into measurable objectives
- Not much guidance on how to get back on track if setbacks occur
The Triple Bottom Line

- **People**: The social dimension
  - Emphasizes the people aspect

- **Planet**: The ecological dimension
  - Emphasizes the relationship between business and the natural environment

- **Profits**: The economic dimension
  - The business must be profitable to survive.
Interface is the world’s largest manufacturer of modular carpet tiles

- Business-to-business so not a consumer name
- This industry typically has heavy reliance on fossil fuels and chemicals.
  - Highly industrial, petroleum-intensive business to go “off oil”!
- In 1994, they set a goal for 2020:
  - No petroleum-based raw materials
  - No oil-related energy
- Between 1996 and 2008:
  - Saved over $400 million due to its energy efficiency and use of recycled materials
Interface: The World’s First Sustainable Company

- Consider the case of Interface as a global leader in modular carpet and sustainability. Do you think the next generation of business leaders will lead the way to more sustainable companies as the “new normal,” or do you think this case, was, is, and will be a rare occurrence in business?
Business Models: Putting Strategy into Action
What Is a Business Model?

- Details the competitive tactics and initiatives
- Explains how the firm intends to make money
- Stipulates how the firm conducts its business
  - Buyers, suppliers, and partners
Airbnb: Tapping The Value of Unused Space

- San Francisco friends
  - Rented out space on the mattresses
  - Served guests breakfast

- First mover in the peer-to-peer rental industry

- Unique accommodation offerings

- Spring 2015: valued at $20 billion
Airbnb: Tapping The Value of Unused Space

- Evaluate Airbnb as a first-mover in the peer-to-peer rental industry. What recommendations would you make to increase the likelihood of sustainable competitive advantage?
The Razor – Razorblade Model

- Initial product is often:
  - Sold at a loss, or
  - Given away for free
- Helps drive demand for complementary goods
- Money made primarily on replacement parts
- Example: HP
  - Charges little for its laser printers
  - Imposes high prices for replacement toner cartridges
The Subscription Model

- Traditionally used for (print) magazines and newspapers
- Users pay for access to a product or service
- Examples:
  - Cable television
  - Satellite radio
  - Health clubs
The Pay-as-You-Go Model

- Users pay for only the services they consume

- Examples:
  - Utilities providing power and water
  - Cell phone service plans
The Freemium Model

• Free + premium business model
• Provides the basic features free of charge
• Users pay for premium services
  – Such as advanced features or add-ons
• Examples:
  – Software trials with an option to buy
The Wholesale Model

• The traditional model in retail
• Products sold at a fixed price to retailers
• Retailers mark up the prices to make a profit
• Example:
  – Books are originally purchased from a publisher
  – Re-sold at 50% markup from a retailer
The Agency Model

• Producer relies on an agent or retailer to sell the product.
  – At a pre-determined percentage commission

• Producer may also control the retail price.

• Example:
  – Entertainment industry
    • Agents place artists or artistic properties.
    • They then receive a commission.
The Bundling Model

• Products or services for which demand is negatively correlated at a discount

• Example:
  – The Microsoft Office Suite
    • Instead of selling Word and Excel $120 each,
    • Microsoft bundles them at a discount, say $180
Business Models Evolve Dynamically

- Business models can be combined.
- Business models can evolve.
- Business models can be disrupted.
- Businesses must respond to disruption and adapt.
- Legal conflicts can arise.
Evolving Business Models of Google and Microsoft

Multi-point Competition

Microsoft
- Operating Systems
  - Windows
  - High Cost for Users
  - Medium Cost for OEMs
- Software Apps
  - Office Suite
- Online Search
  - Bing
  - Free for User (Loss Leader)
  - Free for User

Google
- Chrome OS & Android
  - Free for User
- Google Docs
  - Free for User
- Google
  - Free for User
  - High Cost for Advertisers
Putting Performance in Perspective

Narrow Stakeholder Perspective

- Accounting Profit
- Economic Profit
- Balanced Scorecard
- DCF
- Share Price
- Stakeholders View

Broad Stakeholder Perspective

Past

Future