B. Optimization Techniques

1. Total, average, and marginal relationships

a. Graphical approach

b. Mathematical approach

(1) Total

(2) Average

(3) Marginal

2. Optimization

a. Graphical approach

(1) Total analysis

(2) Marginal analysis

b. Mathematical approach

* Set derivative = 0
* Determining maximum or minimum

- Use second derivative

(1) Multivariate optimization

* Use partial derivatives

(2) Constrained optimization

* Use Lagrangian multiplier method

3. New management tools for optimization

a. Benchmarking

* Find out how other firms are doing something better and emulate
* Best practices

b. Total quality management (TQM)

* Constantly improve quality of products and firm’s processes
* Requirements for success

(1) Strongly and visibly supportive CEO

(2) Must clearly show benefits to customers and value created to firm

(3) Must have clear strategic goals

(4) Must provide quick financial returns

(5) Must be tailored to individual firm

c. Reengineering

* Completely reorganize firm
* Best candidates are firms facing major shifts in nature of competition

d. The learning organization

* Values continuing learning
* Basic ingredients:

(1) New mental model

* Put aside old ways of thinking and be willing to change

(2) Personal mastery

* Learn to be open with others and be willing to listen

(3) System thinking

* Everyone must have an understanding of how firm really works

(4) Shared vision

* All employees must share the same strategy

(5) Team learning

* Organization must see how all firm’s employees can be made to work and learn together to realize shared vision and carry out the firm’s strategy

4. Other management tools for optimization

a. Broadbanding

* Elimination of multiple salary grades to foster movement among jobs within the firm

b. Direct business model

* Firm deals directly with customer

c. Networking

* Forming of temporary strategic alliances

d. Performance management

* Holding executives and subordinates accountable

e. Pricing power

* Ability to raise prices faster than costs or to lower costs faster than a fall in prices

f. Process management

* Coordination or integration of all the firm’s performance-improvement initiatives

g. Small-world model

* Large company can act like a small one by linking well-connected individuals at each level with one another

h. Strategic development

* Assessment and action should be under continuous review and provide direction and an agenda

i. SWOT analysis

* Strengths, Weaknesses, Opportunities, and Threats

j. Virtual integration

* Blurring of traditional boundaries and roles between manufacturer and suppliers and/or manufacturers and customers

k. Virtual management

* Simulate consumer behavior with computer models

5. The American Business Model

* Maximize value of firm subject to constraints, shareholder standards, transparency through quarterly reports