A Framework for Operations Strategy

How operations can be used for competitive advantage in today's world

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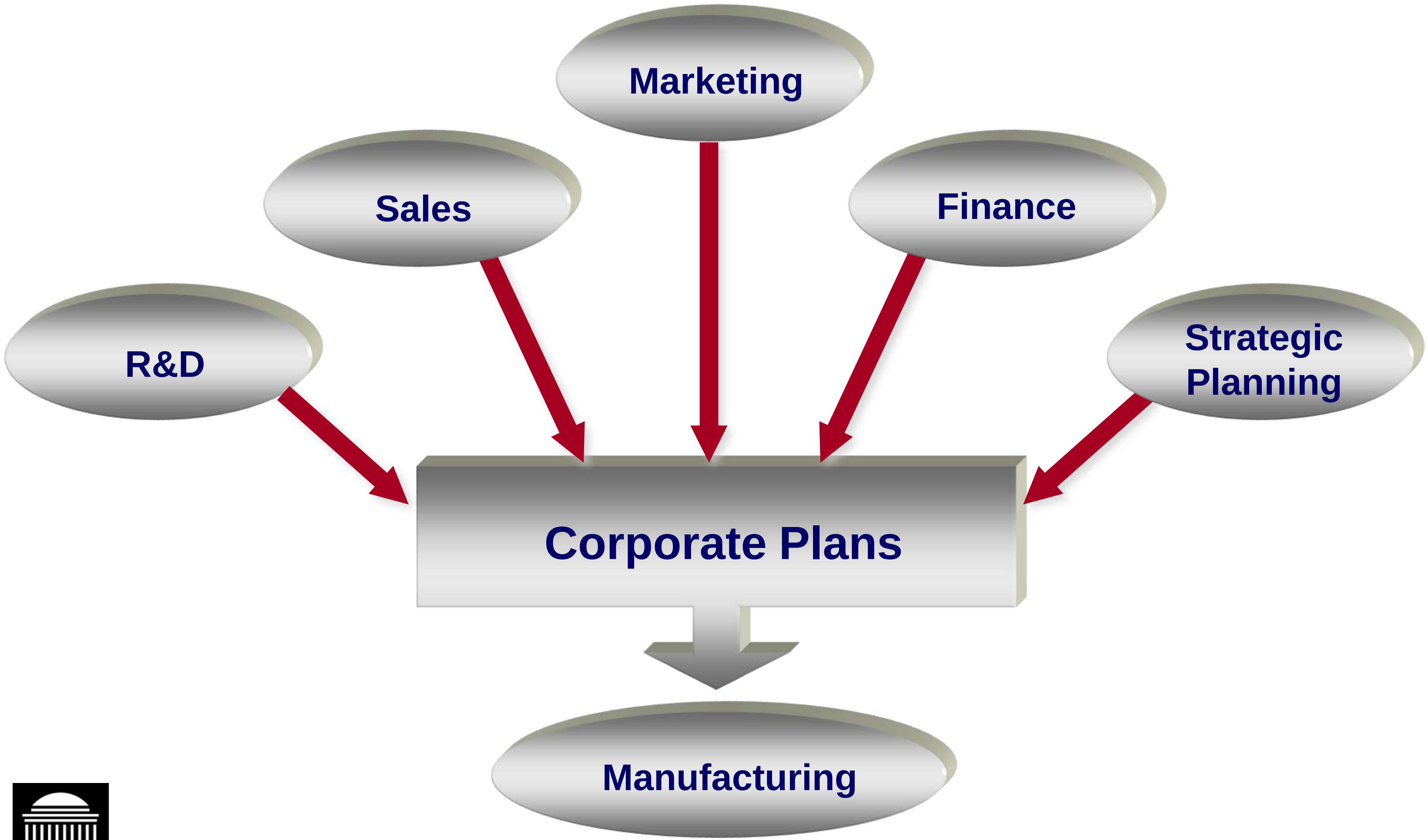
Problem One: Conflicts

- More capacity
- Variety
- Cost
- Meeting targets

- Better forecasts
- Economical operations
- Other strategic criteria
- Maintaining quality

Problem Two: Role in Strategy



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We first address some business strategy issues

- Which businesses should we be in?
- How do we compete and compare with our competitors in each one?
- What dimensions of customer performance do we focus on
- To answer these questions, we first look at alternative views of how individual businesses compete

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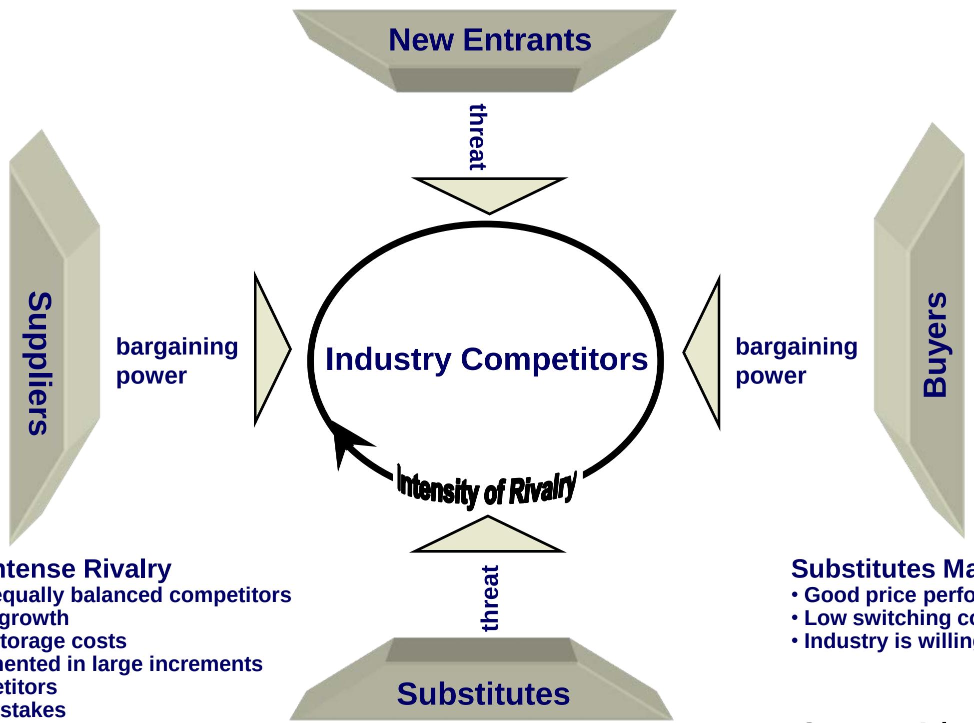
Competitive Strategy: The Positioning View

Sources of Barriers to Entry
- Economies of scale
- Product differentiation and brand loyalty
- Capital requirements
- Switching costs
- Access to distribution channels
- Cost disadvantages independent of scale
- Proprietary product technology
- Favorable access to raw materials
- Favorable locations
- Government subsidies
- Learning or experience curve
- Government policy

Suppliers Have Power When:
- Fewer suppliers than those supplied
- No substitute products
- Industry is not an important customer
- Suppliers' input is important to industry
- Supplier products are differentiated or switching costs are high
- Suppliers may forward integrate



Buyers Have Power When:
- Buyers are concentrated or purchase large volumes relative to industry sales
- Purchases represent a significant fraction of their costs
- Products purchased are standard or undifferentiated
- Buyers face few switching costs
- Buyers earn low profits
- Buyers can backward integrate
- Products purchased are unimportant to quality of buyers' products
- Buyer has full information

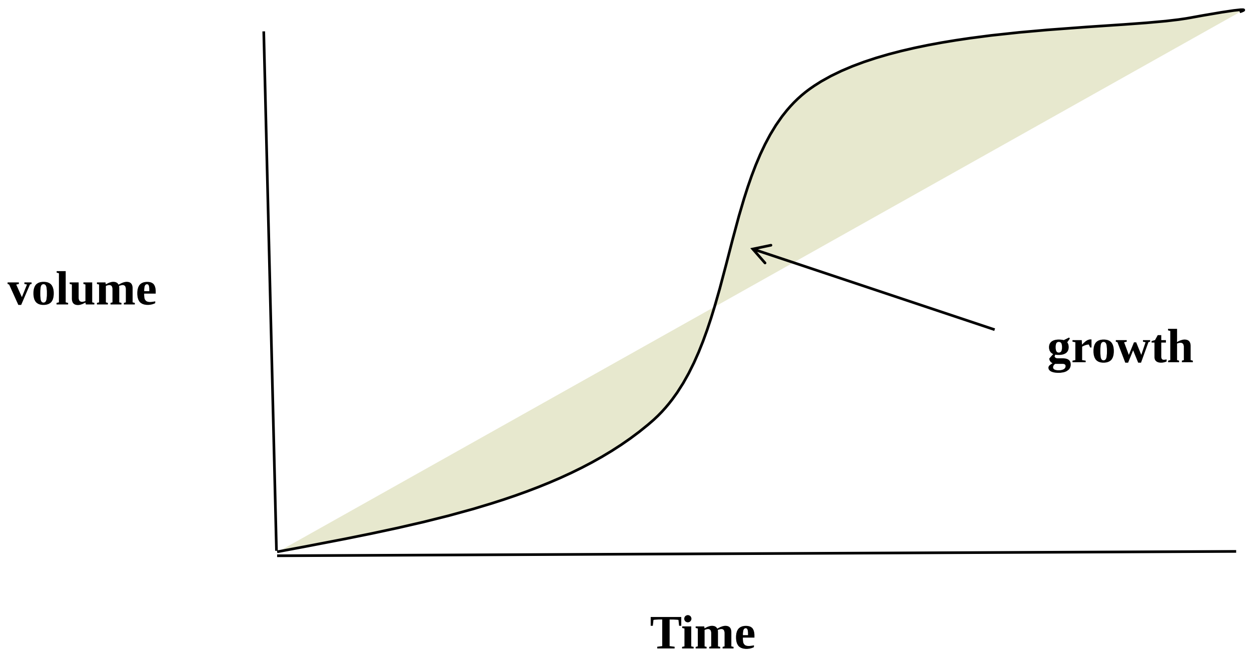
Sources of Intense Rivalry
- Numerous or equally balanced competitors
- Slow industry growth
- High fixed or storage costs
- Capacity augmented in large increments
- Diverse competitors
- High strategic stakes
- High exit barriers

Substitutes May Become a Threat When:
- Good price performance
- Low switching costs
- Industry is willing to substitute

Source: Adapted from Porter

Competitive Strategy: The Positioning View

- **Positioning is based on the external market, industry dynamics, and the structure of the value chain**



Competitive Strategy: The Positioning View

- **Options for firm positioning:**
  - Cost leadership
  - Differentiation
- **And, by focusing on segments**
  - Distinct customer groups
  - Groups with similar needs
- **BUT, assumes operations excellence is not a source of competitive advantage**

Competitive Strategy: The Resource-Based View

- **Competitive advantage is derived from the firm's development of unique bundles of resources and capabilities that are:**
  - Inimitable: are difficult or costly to imitate or replicate
  - Valuable: allow the firm to improve its market position relative to competitors
  - Rare: in relatively short supply

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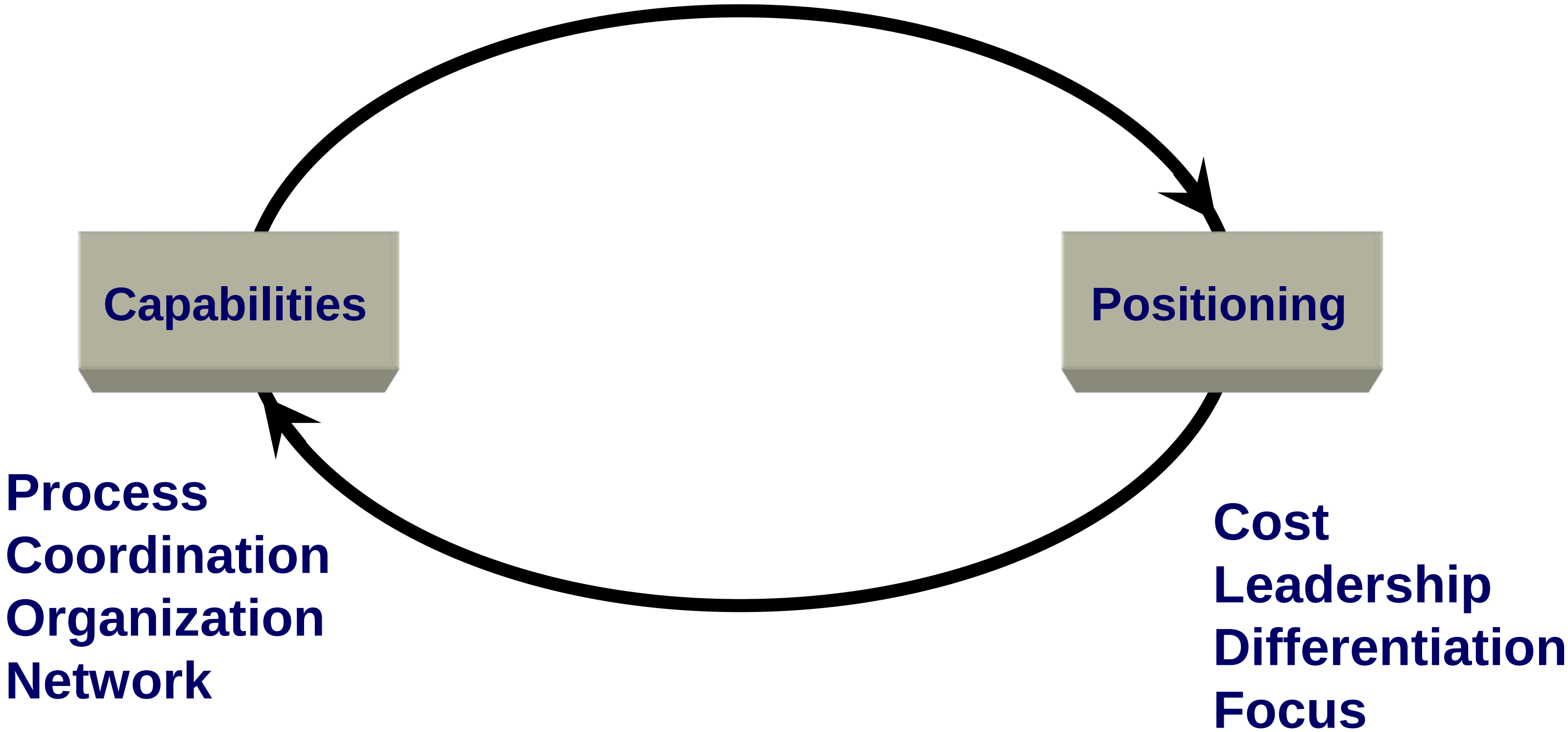
Competitive Strategy: The Resource-Based View

- **Resource: an observable, but not necessarily tangible, asset that can be valued and traded**
  - e.g., brand, patent, parcel of land, license
  - Asset or input to production than an organization owns, controls or has access to on a semi-permanent basis
- **Capability: not observable, and hence necessarily intangible, cannot be valued and changes hands only as part of an entire unit**
  - Processes, activities or functions performed within a system
  - Utilize the organization's resources
  - Example: How a company innovates

Competitive Strategy: The Resource-Based View

- **Types of capabilities**
  - Process-based
    - e.g., McDonald's
  - Systems- or coordination-based
    - e.g., Ritz-Carlton
    - e.g., Southwest Airlines
  - Organization-based
    - e.g., Toyota
  - Network-based
    - e.g., Dell and the fulfillment supply chain
    - e.g., Cisco and the technology suppliers

Competitive Strategy: Integrating the Positioning and Resource-Based Views



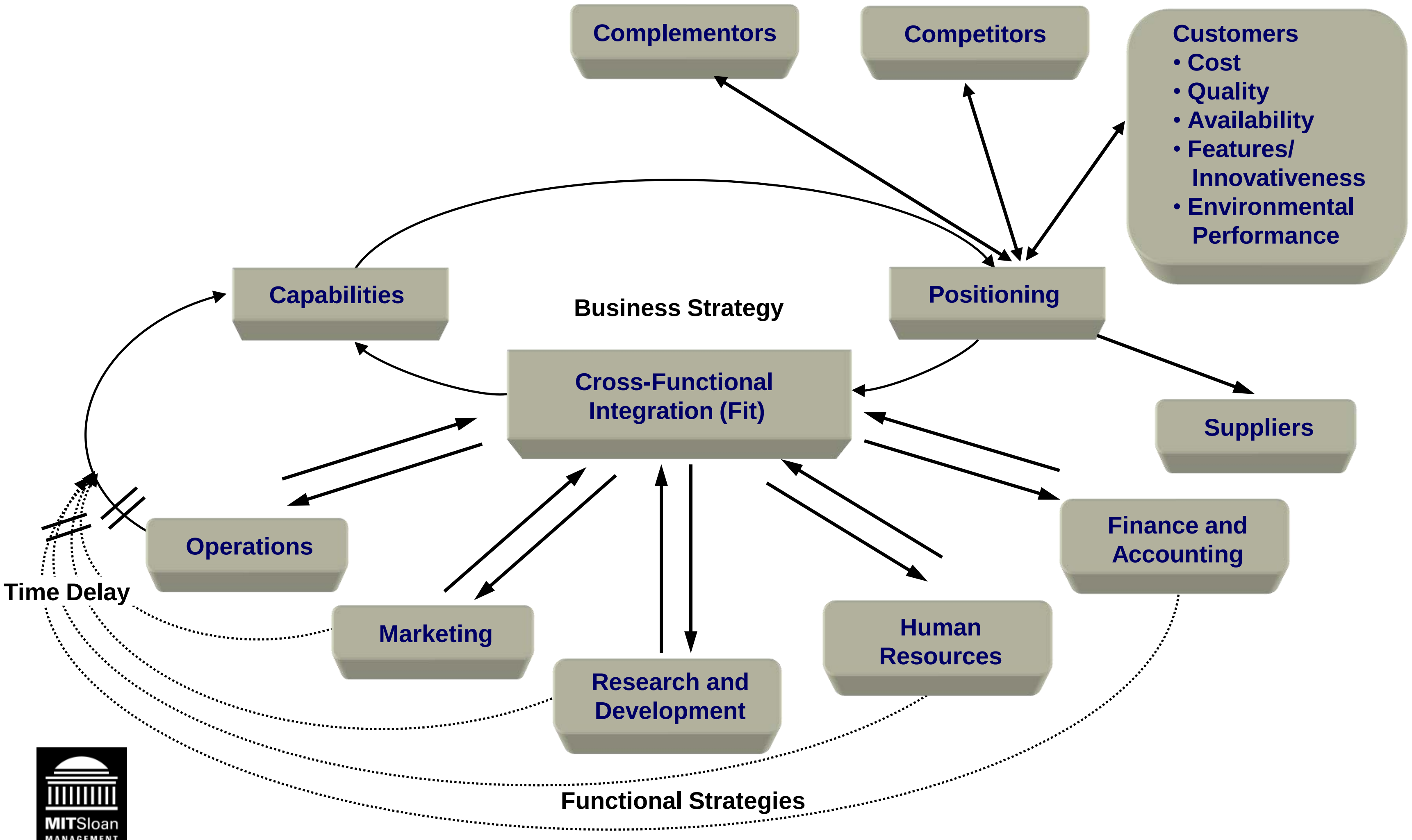
The process must then involve three levels:

- Corporate
- Business Unit
- Function

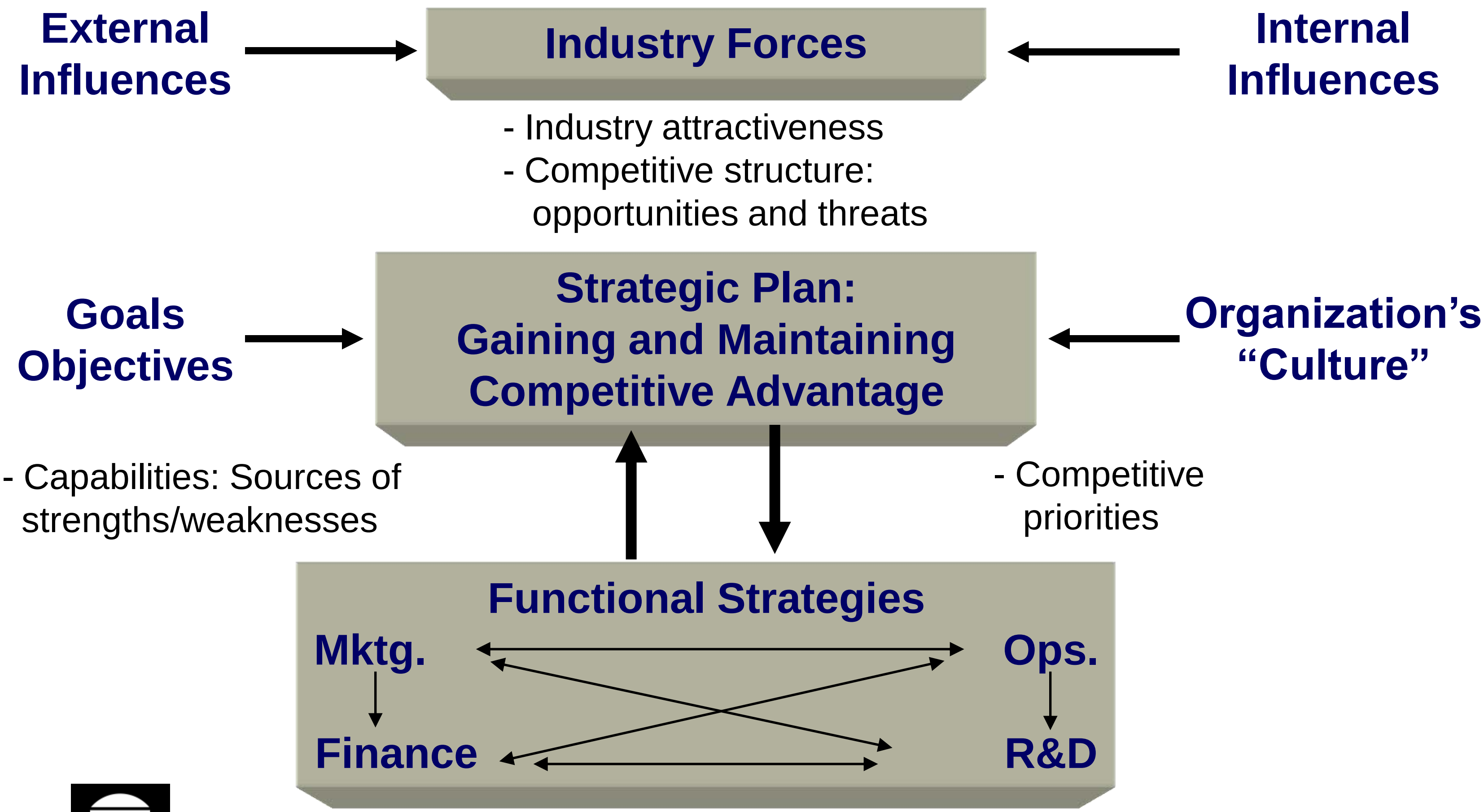
…as well as customer goals

- Cost
- Quality
- Availability
- Features/Innovativeness
- Environmental Performance

…yielding an integrated framework



The essence is internal/external and functional fit



But there is a fourth level!

Fourth level: Decision Category Approach

- **The decision category approach examines manufacturing decision categories for consistency with strategic vision**
  - Structural decisions
    - Bricks and mortar
    - Machinery
  - Infrastructure
    - People
    - Systems
    - Procedures
  - Fit with business, corporation, and other functions

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Companies vary considerably on this ideal approach

- **Use of both capabilities and positioning**
- **Formality of process**
- **Type of formal method**
- **Input of operations**
- **Focus on all decision categories**

Major Manufacturing Decision Categories

1. **FACILITIES**
   - size
   - location
   - focus
2. **CAPACITY**
   - amount
   - timing
   - type
3. **VERTICAL INTEGRATION AND SUPPLIER MANAGEMENT (The technology supply chain)**
   - direction
   - extent
   - interfaces
   - collaboration
4. **PRODUCTION TECHNOLOGIES AND PROCESSES**
   - equipment
   - automation
   - interconnectedness
   - scale
   - flexibility
5. **WORK FORCE AND MANAGEMENT**
   - RFI?
   - Policies (wages, security, etc.)
   - skill levels
6. **INFORMATION TECHNOLOGIES**
   - use and level of investment
   - parity or differentiation
7. **SUPPLY CHAIN AND MATERIALS (The fulfillment supply chain)**
   - logistics facilities and methods
   - inventory policies
   - vendor relations
   - production planning
8. **ORGANIZATION AND INCENTIVES**
   - structure
   - reporting levels
   - degree of centralization
   - role of staff
   - control/reward systems
   - costing systems
9. **BUSINESS PROCESSES**
   - product generation
     - interfaces
     - responsibilities
     - vendor development
   - order fulfillment
   - service and support
   - quality and CI, flexibility, and other cross-cutting capabilities

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IT decisions

- **How much to invest**
- **Where to focus investment**
- **Standardized or customized applications**
- **Should IT be standardized within the company**
  - Standardization allows common learning and implementation advantages
  - But there is less flexibility for local needs
- **Organization, implementation and measurement**
- **Parity or competitive advantage**

Measures of Performance

The strategic mission matches the organization's strengths to a limited set of external measures of performance

- **Operations Costs**
  - Unit costs
  - Total (volume) costs
  - Lifetime costs
- **Availability**
  - Percentage of on-time shipments
  - Response to results for info or changes
  - Product and volume flexibility
  - Delivery time
- **Quality**
  - Return rate
  - Product reliability and durability
  - Cost and rate of field repairs
- **Innovativeness and Features**
  - Product innovativeness
  - Time to market and development cycle
- **Environmental Performance**
  - Ease of disassembly and recycling
  - Use of resources

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Decision Categories map to 3D concurrent engineering

Product

Process

Process technology
Capacity
Facilities
IT
Business Processes- PG

Supply Chain

Fulfillment SC
Materials mgmt
Supplier mgmt
Vertical integration

Infrastructure – HR, organization, IT infrastructure, other business processes

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Identify the right measures!

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The Classic Strategies

Strategy	Technology	Infrastructure	Marketing & Sales
• Low unit cost	• Specialized equipment	• Materials planning and control	• Narrow line • Price
• High service level	• Reserve capacity	• Inventory	• Dependability
• Wide line custom products	• Flexible machines • Reserve capacity	• Worker skills	• Customer needs and scheduling
• Product innovation	• General purpose	• Development • Team skills	• Market leadership • New segments

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Present Operations Policies

Operations Unit ____

Decision Category	Description of Past Policy	Strengths	Weaknesses
Production technologies & processes			
Capacity			
Workforce & management			

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Summary of decision category framework

- **Understanding of external (value chain, dynamics, competitors, etc.) and internal (capabilities)**
- **Consistency at four levels (corporation, business, function, and decision category)**
- **Strategy is pattern of decisions within the nine categories**
- **Strategy is the identification of the competitive priorities from the five means of competition**

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