

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
SLOAN SCHOOL OF MANAGEMENT

**15.565 Integrating Information Systems:**

**Technology, Strategy, and Organizational Factors**

**15.578 Global Information Systems:**

**Communications & Connectivity Among Information Systems**

Spring 2002

Lecture 4

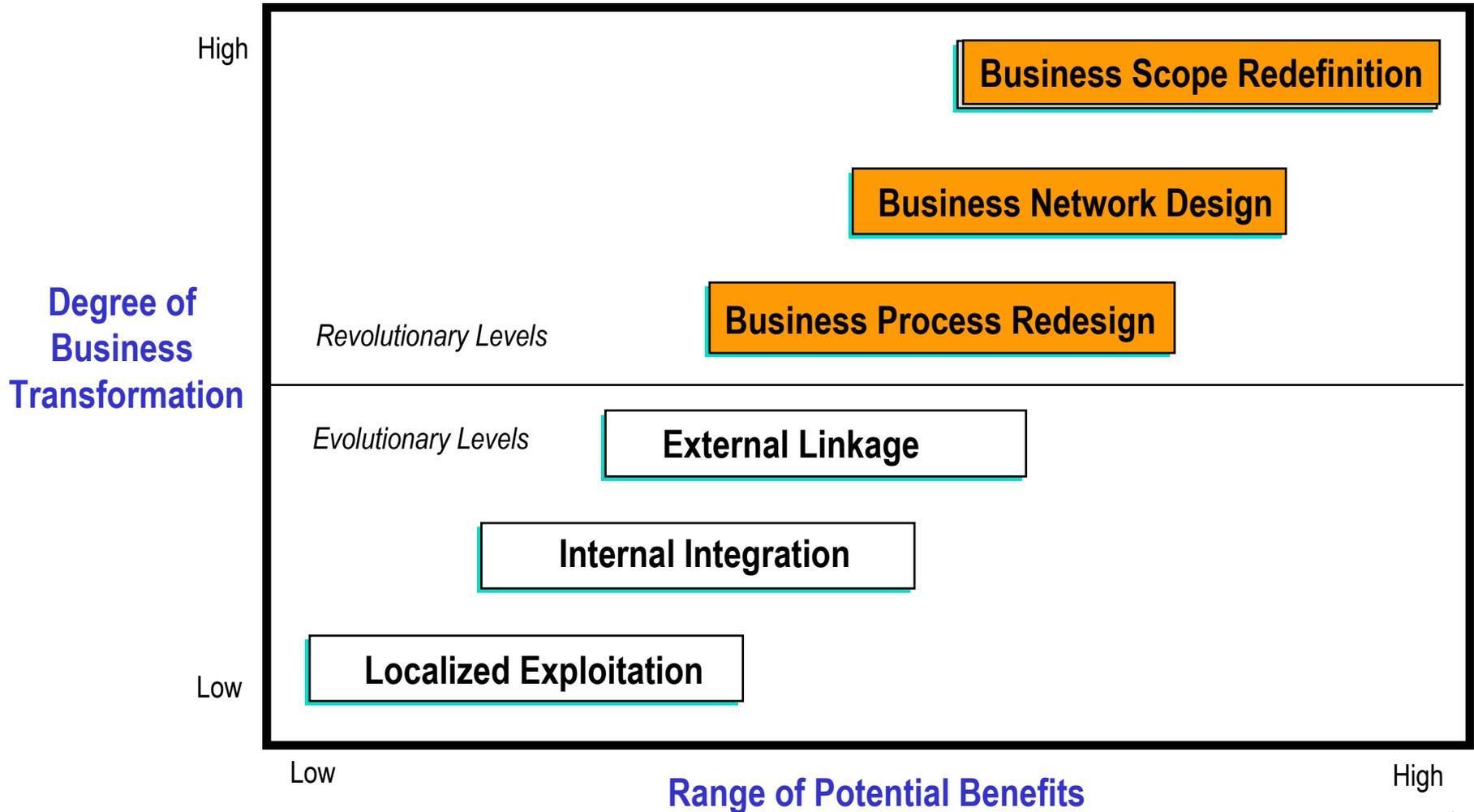
***INTER- AND INTRA-  
ORGANIZATIONAL SYSTEMS***



# Different Levels of IT-enabled Business Transformation

- **Role of IT in business has shifted over time**
- **Trajectory of IT's role based on two dimensions**
  - Range of IT's potential benefits
  - Degree of organizational transformation
- **Premise:** The benefits of IT deployment are marginal if only superimposed on existing organizational conditions  
(e.g., strategies, structures, processes, culture, roles, etc.)

# Different Levels of IT-enabled Business Transformation



# IT-enabled Business Transformation

- **Evolutionary Change**
  - Localized Exploitation
    - standard IT applied with minimal changes to processes
  - Internal Integration
    - applying IT to integrate activities through technical interconnectivity and functional interdependence
  - External Linkage
    - applying IT to automate exchange of information across organizational boundaries

# IT-enabled Business Transformation

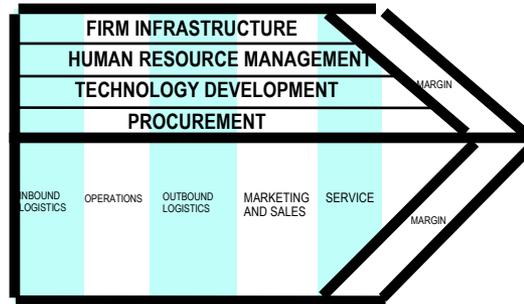
- **Revolutionary Change**
  - Business Process Redesign
    - use of IT to enable fundamentally different business processes and organizational designs
  - Business Network Redesign
    - use of IT to create a new interdependent process across multiple participants in a business network
  - Business Scope Redefinition
    - use of IT to redefine or expand the scope of business and thereby redesigning business processes and restructuring business networks

# **REMINDER: TECHNOLOGY IMPACTS STRATEGY BY**

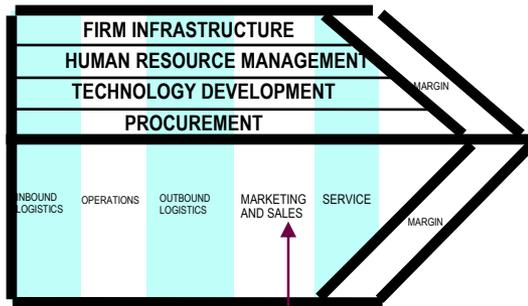
- 1. SUPPORTING COST AND DIFFERENTIATION STRATEGIES**
- 2. ALTERING INDUSTRY STRUCTURE**
- 3. SPAWNING ENTIRELY NEW BUSINESSES**

**EFFECTIVE STRATEGIES DO ALL THREE!**

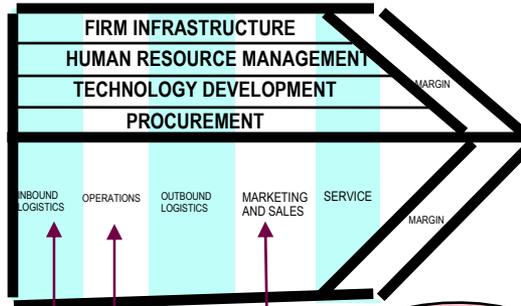
# EXAMPLE



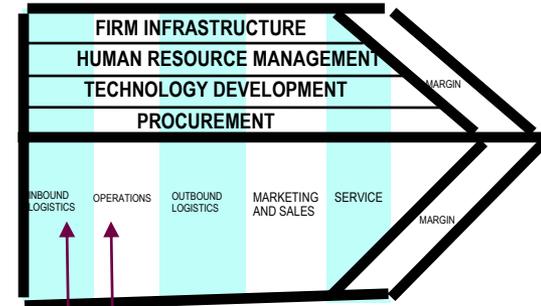
POTENTIAL NEW ENTRANT



SUPPLIER



MCKESSON DRUG  
WHOLESALING



CUSTOMER

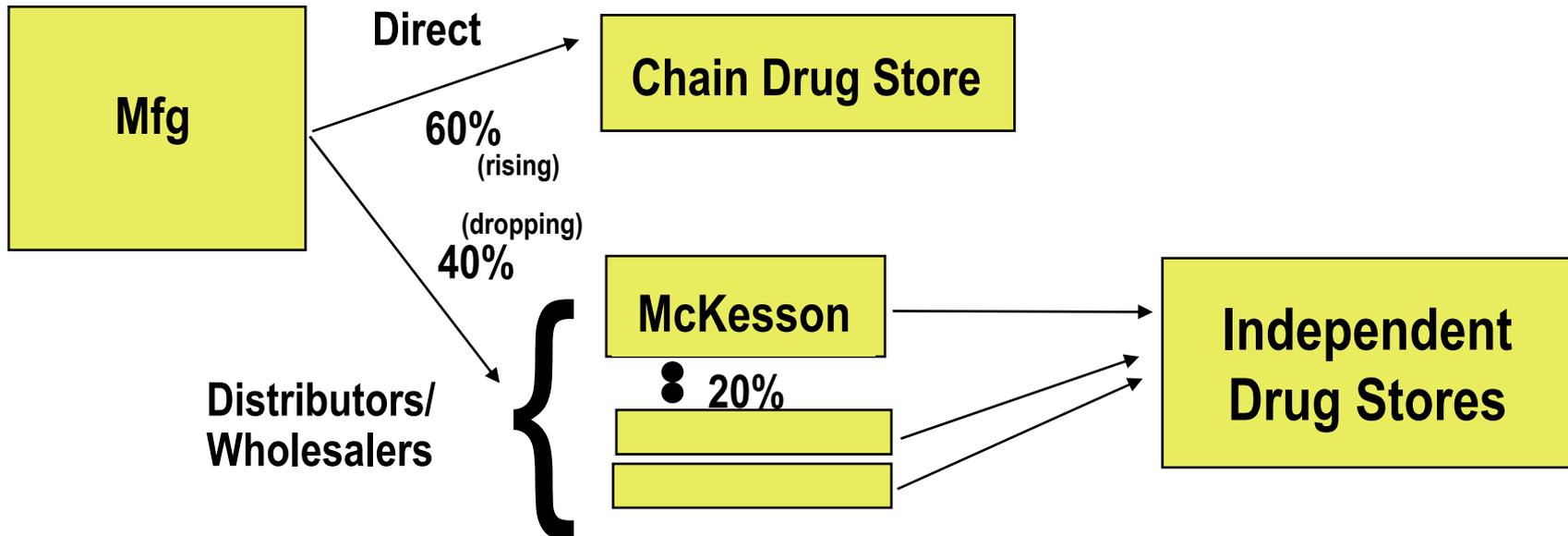
OPPORTUNITY FOR NEW PRODUCTS AND SERVICES

# MCKESSON - CASE (starting mid-1970s)

- **CONGLOMERATE (REVENUES = \$ 2B)**
  - McKesson & Robbins Drug Company (39%)
  - Beverage (26%)
  - Chemical Wholesaler (10%)
  - Foods Manufacturer (22%)
  - Land Development (3%)
- **UNFOCUSSED**
- **LACKLUSTER PERFORMANCE**
  - Sales Growth 6% / yr
  - Profit growth 2% / yr

# MCKESSON - CASE (continued)

- DRUG WHOLESALING
  - Industry (\$9B)
  - Problem Area
  - “Kill or Cure” - Alternatives?



# RELATIONSHIP BETWEEN DRUGSTORE AND WHOLESALER

- **3-5 Major Wholesalers, many small players**
- **“Good-Old-Boy” Relationship**
- **“Sales” calls to create hand-written orders**
- **Telephone calls for out-of-stock items**
  
- **Average 2 deliveries per day**
- **Average order less than \$200**

# MCKESSON ECONOMIST SYSTEM

- **SIMPLE STORY**

- Electronic order entry by customer using portable terminal.

- **BENEFITS TO CUSTOMER**

- **Pricing**

- Lower typically (1%)
- Attractive discounts on volume purchases

- **Store Organization**

- Shelf-space stickers with re-order info
- Pricing strategy system (gross margin)

- **Delivery**

- Delivered in Boxes
  - organized by department and with price stickers

- **Management**

- Reports on assortment, pricing, inventory

# SUMMARIZE BENEFITS TO CUSTOMER

- PRICE
- STOCKING
- INVENTORY
- ASSORTMENT
- SHELF-SPACE
- MARGINS
- MANAGEMENT

➔ MORE RATIONAL WAY TO OPERATE

- SUPPORT COSTS AND DIFFERENTIATION STRATEGIES

# BENEFITS TO McKESSON

- **DECREASED ORDER ENTRY COSTS AND ERRORS**
- **DELIVERIES REDUCED FROM 1-2 / DAY TO 1-2 / WEEK**
- **RETAILERS FOCUS ON ONE WHOLESALER**
  - Customer reduced by 25% but average order size increased
  - Increase “Switching Costs”
- **IMPROVEMENTS IN OPERATIONS**
  - Telephone Order -taker Clerks: **Reduced from 700 to 15**
  - Purchasing Staff: **Reduced from 140 to 12**
  - Warehouses: **Decrease 50% (“mother trucks”)**
- **OFFICE AND WAREHOUSE PRODUCTIVITY INCREASED**
- **ROLE OF SALESPEOPLE CHANGED**
  - **Reduced by 50%**
  - Sell “System”

# LONG-TERM IMPACTS

- **MARKET SHARE? (mid-1970s=20%)**

< 30%

30-50%

>50%

- **REVENUES? (mid-1970s=\$720M)**

< \$10B

\$10-20B

>\$20B

# **IMPACT ON DRUG WHOLESALING INDUSTRY STRUCTURE**

- **RAISED “TABLE STAKES”**
  - Number of wholesalers dropped from 180 to 90
- **ALTERED CUSTOMER RELATIONSHIP**
  - “Bundled” products and services
  - Reliance on wholesaler
- **STRENGTHENED “CLOUT” OF WHOLESALER  
(REDUCED “DIRECT” MANUFACTURER SALES)**
  - Direct sales decline from 60% to 33%
  - Spawn new businesses (value-added services)

# VALUE - ADDED SERVICES & NEW BUSINESSES

- **VALUE-ADDED SERVICES**
  - Billing and A/R services
  - In-store prescription computer and drug inter-action warnings
  - Credit card authorization
  - Third-party insurance claim filing
- **NEW BUSINESSES**
  - “Value-rite” chain of 3000 independents (“virtual chain”)
  - Managed prescription care services, RECAP<sup>sm</sup> (200 M/yr prescription)

# OTHER LESSONS LEARNED

- Changing customer behavior **difficult**
- Changing corporate “culture” **difficult**
- Needs lots of top management **patience**
- Attempts to use these approaches **not always successful**

# SUMMARY

- **NEED TO EXPLORE NEW STRATEGIES AND PROCESSES -- MIGHT TRANSFORM COMPANY AND INDUSTRY**
- **APPROACHES:**
  - Competitive forces (5-forces) →
  - Value chain analysis →
- Changes what work gets done and by whom
- **LONG-TERM IMPACTS ON COMPANY AND INDUSTRY**
  - Support cost and differentiation strategies
  - Alters industry structure
  - Spawn entirely new businesses
- **NOTE INTERDEPENDENCE OF STRATEGY, TECHNOLOGY AND ORGANIZATION**

