15.565 Integrating eSystems: Technology, Strategy, and Organizational Factors
15.578 Global Information Systems: Communications & Connectivity Among Information Systems
Spring 2002
Lecture 2

INFORMATION TECHNOLOGY STRATEGY:
INTERLINKED VALUE CHAINS
COMPETITIVE STRATEGIES AND NEW PROCESSES – FRAMEWORKS

• ISSUES:
  • Corporate strategy
  • Information technology

• APPROACHES:
  • Five - forces model
  • Value chain model
  • Transform processes
  • Long-term impacts
TECHNOLOGY IMPACTS STRATEGY BY:

1. SUPPORTING COST AND DIFFERENTIATION STRATEGIES

2. SPAWNING ENTIRELY NEW BUSINESSES
   a) new business economically feasible
   b) created by new demand
   c) create new business within old
   d) information by-products

3. ALTERING INDUSTRY STRUCTURE
IMPACT OF COMPETITIVE FORCES ("5 Forces")

- BASIC MODEL: SEE PORTER, COMPETITIVE STRATEGY
MODIFIED 5-FORCES MODEL

I. INTER-ORGANIZATIONAL

NEW ENTRANTS/COMPETITORS

- WARD OFF COMPETITION
  - DELTA
  - MAILING TO FREQUENT FLYERS
  MATCHING AND BEATING COMPETITION

SUPPLIER

- COORDINATE SUPPLIER
  - TOYS ‘R US
  - CONTROL INVENTORY SHIPPING
  - RESPOND TO DEMAND
    (SELL-OFF LOSERS FAST)

STRATEGIC BUSINESS UNIT

NEW PRODUCTS AND SERVICES

- LOCK IN CUSTOMER
  - AMERICAN HOSPITAL SUPPLY
  - ORDER ENTRY
  - BID PREPARATION
  - AIRLINES
  - FREQUENT FLYER
  - RED RIVER CONSTRUCTION
  - UNDERBID ON ALL CONTRACTS

CUSTOMER

- EXPAND MARKET DEFINITION
  - JC PENNY
    - CREDIT CARD SERVICE FOR MOBIL & GULF
    - CITIBANK, MORGAN GUARANTY
    • TRANSACTION PROCESSORS

NOTE: POSITIVE AND NEGATIVE LINKAGES/CONNECTIVITY

2. INTRA-ORGANIZATIONAL
Opportunities:
- lower cost - within individual value chain
- add value - through improved linkages
INTERLINKED VALUE CHAINS

POTENTIAL NEW ENTRANT

SUPPLIER

YOU (A)

CUSTOMER (B)

OPPORTUNITY FOR NEW PRODUCTS AND SERVICES
INTERDEPENDENCE OF ACTIVITIES BETWEEN VALUE CHAINS

Value Chain A

<table>
<thead>
<tr>
<th>Value Chain B</th>
<th>Inbound Logistics</th>
<th>Operations</th>
<th>Outbound Logistics</th>
<th>Marketing &amp; Sales</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound Logistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outbound Logistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing &amp; Sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Diagram shows the interdependence of activities between Value Chain A and Value Chain B.
EXAMPLE 1

POTENTIAL NEW ENTRANT

SUPPLIER

AMERICAN HOSPITAL SUPPLY (BAXTER)

OPPORTUNITY FOR NEW PRODUCTS AND SERVICES

CUSTOMER
AMERICAN HOSPITAL SUPPLY (AHS)

- **SIMPLE STORY**
  - Provided hospitals with direct data-entry capability

- **IMPLICATIONS**
  - Raised barrier to entry
  - Locked in customer
  - Lowered clerical and inventory costs (customer and AHS)
  - Volume discounts
  - Better inventory control → less stock-outs
  - Better production coordination → reduce costs and improve service
  - Reduced data entry errors → reduce costs and improve service

- New activities:
  - Business consultants to hospitals
  - Marketing information data
EXAMPLE 2

POTENTIAL NEW ENTRANT (COMPETITOR)

SUPPLIER

DELTA AIR LINES

CUSTOMER

Normal Frequent Flyers

OPPORTUNITY FOR NEW PRODUCTS AND SERVICES
AIRLINE RESERVATION SYSTEMS AND FREQUENT FLYER PROGRAMS

• SIMPLE STORY:
  • Added incentive to fly on that airline

• HISTORICAL ASIDE
  • "Big brother" concern

• AIRLINE RESERVATION SYSTEM INITIAL BENEFITS:
  • “Lock you in” and generate revenue
  • Preferential screen display

• OTHER IMPACTS
  • Much better data for Yield management → increase profits
  • Special deals → edge over competition
  • Against new competition → protect revenues
  • Generate new revenues

• INTERESTING ISSUE: Who is the "customer"?
MANY OTHER EXAMPLES

POTENTIAL NEW ENTRANT

SUPPLIER

CUSTOMER

OPPORTUNITY FOR NEW PRODUCTS AND SERVICES
SUMMARY

• NEED TO EXPLORE NEW COMPETITIVE STRATEGIES AND PROCESSES

• 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