TIGHTLY- versus LOOSELY-COUPLED ORGANIZATIONS: EXAMPLES FROM ERP
OUTLINE

• Motivation for Enterprise Resource Planning (ERP)

• ERP Obstacles and Success Factors
  -- Focus on “Tightly-Coupled” Organization

• Views of an Organization

• “Loosely-Coupled” Organizations & Benefits
ENTERPRISE RESOURCE PLANNING (ERP) SYSTEMS

• Definition

• Purpose

• Experience
MOTIVATIONS FOR ENTERPRISE RESOURCE PLANNING SYSTEM

- Replace legacy systems with integrated system
- Provide single face to customer

Infrastructure → Capability → Performance

Common Platform

Process Improvement → Cost Reduction

Data Visibility → Strategic Decision Making

Customer Responsiveness
ENTERPRISE INTEGRATION

See 10 “critical success factors” (Computer World)
OBSTACLES AND SUCCESS FACTORS

1. Need Metrics
   - If vague, can not determine if benefiting
2. Need On-going Resource Requirements
   - but hard to keep top management attention
3. Need Management Report Requirements
   - ERPs best at transaction processing, not DSS
4. Address Resistance
   - Loss of control, broader process view, culture/politics

CONCLUSIONS

• Discipline into Undisciplined Organizations
• Major Cultural Change to Organization
• Standardize Organization’s Processes & Data
  ==> Key to Flexibility & Success
WHAT IS AN ORGANIZATION?

COHEN, MARCH & OLSEN: “AN ORGANIZATION IS A COLLECTION OF CHOICES LOOKING FOR PROBLEMS”

EMERY: “A SET OF RELATED TASKS DIRECTED TOWARDS A COMMON GOAL”

WEICK: “AN ORGANIZATION AS A NOUN IS A MYTH...IT IS EVENTS THAT ARE LINKED TOGETHER”

MADNICK: “AN ORGANIZATION IS A COLLECTION OF INDIVIDUALS THAT SHARE COMMON BELIEFS, GOALS, CUSTOMS AND/OR AUTHORITY.”
CONVENTIONAL VIEW OF ORGANIZATION

• DISCIPLINED
  – PLANS
  – COST-BENEFIT ANALYSIS
  – DIVISION OF LABOR JOB DESCRIPTIONS
  – EVALUATION AND REWARD SYSTEM

• PRACTICE?

• UNPRODUCTIVE TO VIEW BEHAVIOR AS “ABSURD” OR “IRRATIONAL”

• BENEFITS OF LOOSE COUPLING?
EXAMPLE SITUATION:

AUTOMATING TECHNICAL ORDER (TO) PROCESSING IN THE US AIR FORCE

ORG. 1 (USAF)

ORG. 2
(PRINTERS)

ORG. 3
(WEAPON SYSTEMS)
VALUE OF “LOOSE COUPLING”

1. ALLOWS PORTIONS OF ORGANIZATION TO PERSIST
   + ELECTED OFFICIAL/ELECTORATE - MAY PERSIST TOO LONG
   + DIMINISHES IMPACT OF VOLATILITY

2. SENSING MECHANISM
   + MORE INDEPENDENT SOURCES - TOO VULNERABLE

3. LOCALIZED ADAPTATION
   + SWIFT, ECONOMICAL ADAPTATION - OPPOSITE OF STANDARDIZATION

4. ALLOW LOCAL MUTATIONS AND NOVEL SOLUTIONS TO EXIST
   + CAN ADAPT TO RANGE OF CHANGES - COULD SLOW SPREAD OF GOOD MUTATIONS

5. BREAKDOWN SEALED OFF
   + LOCALIZATION OF TROUBLE - MAY BE HARD TO DIRECT AND REPAIR

6. SELF-DETERMINATION INCREASES SENSE OF EFFICACY
   + LINKS INTENTIONS AND ACTIONS - STANDARDIZATION & MORE NEGOTIATION

7. REDUCED COORDINATION COST
   + LESS TIME AND MONEY ON COORDINATION - MAY BE INEFFICIENT IN USE OF RESOURCES
CONCLUSIONS

• NEED TO UNDERSTAND INTER-DEPENDENCY AMONG STRATEGIC CONCERNS, ORGANIZATIONAL CULTURE, AND TECHNOLOGY FOR CONNECTIVITY

• CAN START FROM ANY COMPONENT

• IN MANY CASES
  – STRATEGIC CONCERNS REQUIRE INTEGRATION
  – ORGANIZATIONAL CULTURE FAVORS AUTONOMY
  – TECHNOLOGY CAN PROVIDE INTEGRATION AS WELL AS AUTONOMY