Decision Making in Inter-organizational Business Systems such as B2B, SCM etc.

Inter-organizational Business Systems

C.O. 1. Identify types of Collaborative Commerce and its growth

C. O. 2. Recognize Inter-organizational decisions
   • Short-term
   • Long term

C.O. Identify requisite decision support and evolving challenges
Types of Internet-based Collaborative Commerce

- **Net Marketplaces** (also referred to as exchanges or hubs) assemble thousand of sellers and buyers in a single digital marketplace on the Internet. They can be owned by either the buyer or the seller. They can operate as independent intermediaries between the buyer and seller.

- **Private industrial networks** bring together a small number of strategic business partners who collaborate with one another to develop highly efficient supply chains and to satisfy customer demand for product. They are by far the largest form of B2B commerce, presently comprising 93% of the total computer-assisted inter-firm or inter-organizational trade.

Two Main Types of Internet-based Collaborative/ B2B Commerce

From: Laudon & Traver: Chapter 12 “E-Commerce: business, technology, society”
The Growth of B2B Commerce

Internet Marketplace Terminology

- **What businesses buy:**
  - **Direct goods:** goods that are directly involved in the production process
  - **Indirect goods:** goods needed to carry out the production process but that are not directly involved in creating the end product. Often called MRO goods -- maintenance, repair, and operations

- **How businesses buy:**
  - **Contract purchases:** long-term agreements to buy a specified amount of a product. There are pre-specified quality requirements and pre-specified terms.
  - **Spot purchases:** for goods that meet the immediate needs of a firm. Indirect purchases are most often made on a spot purchase basis in a large marketplace that includes many suppliers.

- **Media:**
  - **E-distributors:** Independently owned intermediaries that offer individual customers a single source from which to make spot purchases of indirect or MRO goods. Operate in a horizontal market that serves many different industries with products from many different suppliers. (e.g. grainger.com, staples.com)
  - **E-procurement:** Independently owned intermediaries connecting hundreds of online suppliers offering millions of MRO goods to business firms who pay a fee to join the market. Provide value chain management services -- include the automation of a firm’s entire procurement process on the buyer side and the automation of the selling business processes on the seller side. (e.g. Ariba, CommerceOne)
  - **Net Exchanges:** Independently owned online marketplaces that connect hundreds of suppliers to potentially thousands of buyers in a dynamic real-time environment. Make money by charging a commission on each transaction. (e.g. Gepolymerland.com)
  - ** Consortia:** Serve to reduce supply chain inefficiencies by unifying the supply chain for an industry through a common network and computing platform. (e.g. covisint.com, sciquest.com, plasticanet.com)
Internet Marketplace Decisional Trend

Inter-organizational Decisions – short term
(Case in point: B2B Procurement Decisions / Issues)

- What to buy:
  - Direct parts and products
  - Indirect inputs
- How to buy:
  - How firms purchase goods from a set of suppliers who in turn purchase their inputs from a set of suppliers
  - How these firms are linked in a series of connected transactions

From: Laudon & Traver: Chapter 12 “E-Commerce: business, technology, society”
Typical B2B Process: Two Layers of IT Support

- **Content Layer**: Collection of Data, Information & Transactions. Most B2B’s efforts focus on this layer. May include data content providers.

- **Decision Support Layer**: Enables Decision Making across multiple participants. Few B2B’s focus on this layer.

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Both layers Support the Procurement Decision:
Search, Qualify, Negotiate, Purchase Order, Invoicing, Shipping, Payment

Content layer supports by providing data and information. Two types vendors in point: (1) Oracle, IBM and (2) Aspect Development.

**Direct vs. Indirect Goods (MRO), Spot vs. Contract purchasing**

From: Laudon & Traver: Chapter 12 “E-Commerce: business, technology, society”
Decision Support Layer

• Biggest possible value provider for companies in private & public B2B exchanges via:
  – Demand forecasts: e.g. everyone running production plans off a single forecast
  – Collaboration: e.g. companies get together to design a new product
    • IT tools such as GDSS ....
  – Aggregation: e.g. companies aggregate their spending to negotiate better deals for a component Decision Support Layer is the biggest value for companies in private & public B2B exchanges.

• Software vendor in point: i2 Technologies
  – Market themselves as “in the business of making better decisions given a certain level of data availability.

Decision Support Layer

• Traditional systems fall short:
  – Example: MRP (Materials Requirement Planning systems)
    • Does not provide the data support
    • More of a single-product “feasibility” tool than an optimizer across multiple products.
  – No known systems to optimize inter-organizational flows
    • Only complex simulations
  – Some answers:
    • Supply Chain Planning (SCP) and SC Execution (SCE) products from i2 and Manugistics.
    • Factory Optimizer/ Planner
    • Uses optimizing algorithms and heuristics.
Inter-organizational Decisions – Long term
(Case in point: B2B Decisions / Issues - strategic)

• What business to be in? Who to collaborate with?
• What knowledge to share?
• How to decide on:
  – Risk sharing and mitigation
  – Return sharing
• How will corporate culture play a role in this?

Summary & Review Questions

• Do you know two types of collaborative systems?
• Do you know two layers of IT support needed by collaborative commerce?
  – What are the challenges in each of these two layers?
  – Which layer has more challenges unanswered? Why? Can you provide concrete examples?