Data Management Problems in Ecommerce
Panel statement
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Ecommerce characterization

Electronic Commerce
Electronic Business
Electronic Services

• values are exchanged ▷ information and service quality
• at least two trading partners ▷ interoperability

Ecommerce requires *reliable interoperability*

• heterogeneity
• distribution
• autonomy
Example 1: XML-based information brokering
Problem 1 - Heterogeneity (Commercial) Information Brokering

- Negotiation
  - negotiation on content, delivery and price

- Payment
  - payment for exchanged objects

- Delivery
  - exchange of authentic/protected objects

- Security
  - defines tradeable composed objects

- Document

defines tradeable composed objects
Example 2: EDI processing

Contemporary single processor EDI System

- **EDIFACT inbound**
- ** EDIFACT outbound**
- **inhouse**
- **Host**
- **converter inbound**
- **converter outbound**
- **inbound**
- **outbound**

- **analysis unpacking**
  - A-level
  - B-level
  - C-level

- **logging**
- **parking**

Processing System
Problem 2 - Distribution
Data Flow Management Systems

very short-lived data

Information Brokers
Push technologies
EDI processing

DBMS

DFMS

Data Flow Management Systems

query

data

specification

caching

caching

recovery

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Example 3: CrossFlow - Insurance Scenario

Gather Info → Validate Info → Assign Garage → Notify AGFIL

Receive car → Estimate Repair cost

Inspect car

Obtain details → Contact garage → Assign adjustor

Estimate repair

AGFIL

Notify Lee

Obtain claim form → Check claim form

Amend estimate

Reconcile info → Finalise claim

Lee C.S.

Gara

Europ Assist

Estimate < 500

Repair car → Invoice

Invoice

Obtain claim form

Check invoice
Problem 3 - Autonomy
crossorganizational workflows

motivation
• networked organizations, outsourcing of activities
• requires blend of coordination and market mechanisms
• Application Domains
  • construction, logistics, insurances, telecoms, ...

problems
• how can qualitative and quantitative goals be achieved while unpredictable events can happen
• Crossorganizational Workflows
  • Contractual Basis
  • Service Selection (Market) and planning
  • Service Quality (Monitoring, Control)
Summary

there are areas with methodological challenges
  • Heterogeneity in information commerce models/systems
  • Models/efficiency for management of data flows
  • Integration of coordination and cooperation technology

B2B is the richer source of problems!