COMP 3410 – I.T. in Electronic Commerce

eTrading 1.   Markets

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**http://www.rogerclarke.com/EC/ ...
{ETIntro.html#L1, OhdsET1.ppt}**

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COMP 3410
The eTrading Segment

1. Markets
2. Technologies Underlying eTrading
3. Electronic Payments
4. eTrading in Digital Objects

5. Alternative Architectures

6. Carbon Trading

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eTrading

The transfer of tradable items

from entities that have them

to entities that want them

with the support of telecomms-based tools

What about buying and selling?   And money?

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Market

A mechanism for **the transfer of tradable items**,
from entities that have them, to entities that want them

Marketplace

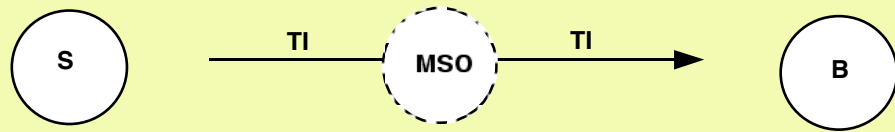A physical location and associated processes

Marketspace

A virtual context in which entities
discover one another and **transact** business

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Market Participants

Seller S   Marketspace Operator MSO   Buyer B

Tradable Item TI

Business Processes
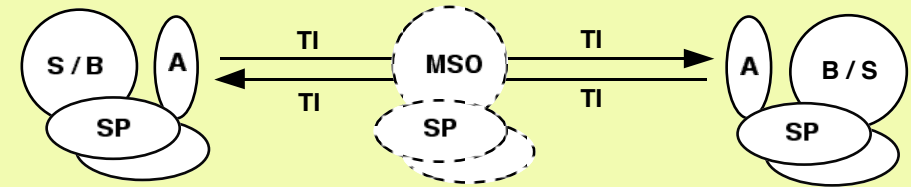
Infrastructure

Market Participants

Sellers / Buyers   Tradable Items   Buyers / Sellers
Agents A   Marketspace Operator   Agents A

Service Providers SP

Business Processes   Infrastructure

Market Phases

- **Discovery**
  - Tradable Item
  - Other Party
- **Negotiation**
  - Price
  - Terms
- **Contract Formation**
- **Delivery / Performance / Settlement**

Market Phases

- Pre-Qualification

  - **Discovery**
    - Tradable Item
    - Other Party
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  - **Contract Formation**
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- Accounting for Successive Usages
- Enforcement and Recourse

Categories of Tradable Items

- **Goods cf. Services**   Deliver cf. Perform

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  - Custom-Built   Architect-Designed, Tailor-Made

  - Commoditised   Shares, Anthracite, Carbon Credits

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- **Degree of Productisation**
  - Custom-Built   Architect-Designed, Tailor-Made
  - Customised   Installed Package Software
  - Productised   Car Parts and Accessories
  - Commoditised   Shares, Anthracite, Carbon Credits

Price-Setting Mechanisms

- **Price Pre-Set by the <u>Seller</u>:**
  - Shop Point-of-Sale
  - Catalogue-Sale

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  - RFQ / RFT / EOI-RFP
  - 'Reverse Auction'

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- **Price Pre-Set by the <u>Buyer</u>**:
  - 'Wanted to Buy' Notices
- **Balanced Negotiation Process**

Negotiation
e.g. Speech Acts Theory

Winograd T. & Flores F. (1986) 'Understanding computers and cognition' Ablex, 1986
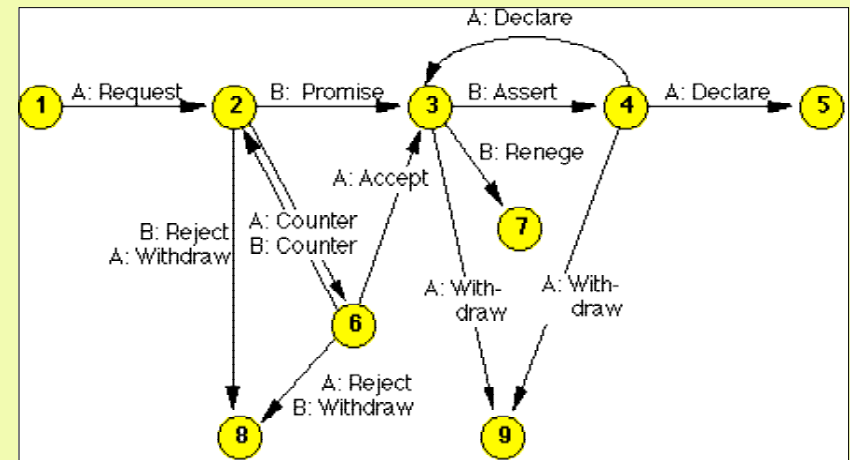
What Marketspace Operators Offer

- **Mutual Discovery**
  of opportunities to trade
- **'Fungibility'**
  i.e. exchangeability of traded items
- **Market Depth**
  numbers of buyers, and of sellers
- **Market Reach**
  geographical extent of participation

Risks in Marketspaces

- **Default** by:
  - Seller
  - Buyer
  - Agent
  - Service-Provider
  - Marketspace Operator

- **Quality** of:
  - Tradable Item
  - Fulfilment

Categories of Buyer-Seller Relationships

- **B2C**: sale by a Business to a 'Consumer'
- **C2C**: sale by a 'Consumer' to a 'Consumer'

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- **B2B**: sale by a Business to another Business
  - for consumption
  - as a factor of production
  - as capital goods / fixed asset

Business Enterprise Categories:

μ, SE, ME, LE, conglomerate, multinational

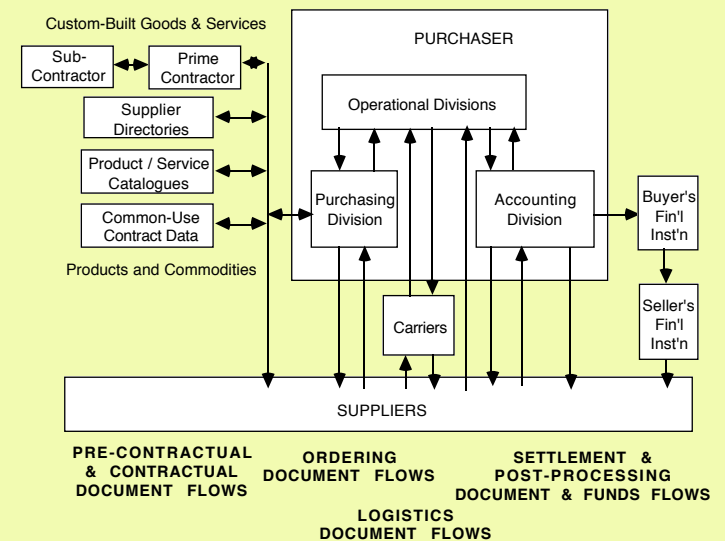## Categories of Buyer-Seller Relationships

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- **B2G**: sale by a Business to a Government agency
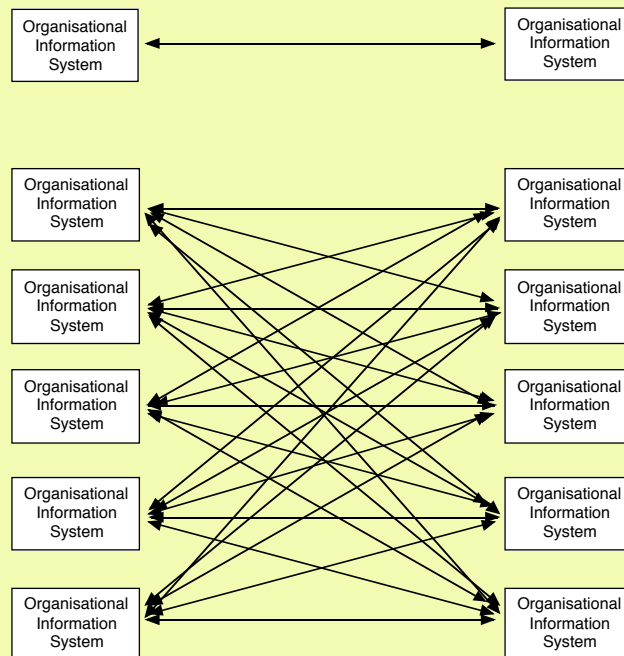
Deliberative Procurement Process

Slide 25

Spontaneous Procurement Process

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┌──────────┐      ┌──────────┐      ┌──────────┐
│   SEE    │ ───► │   PAY    │ ───► │   GET    │
└──────────┘      └──────────┘      └──────────┘
```
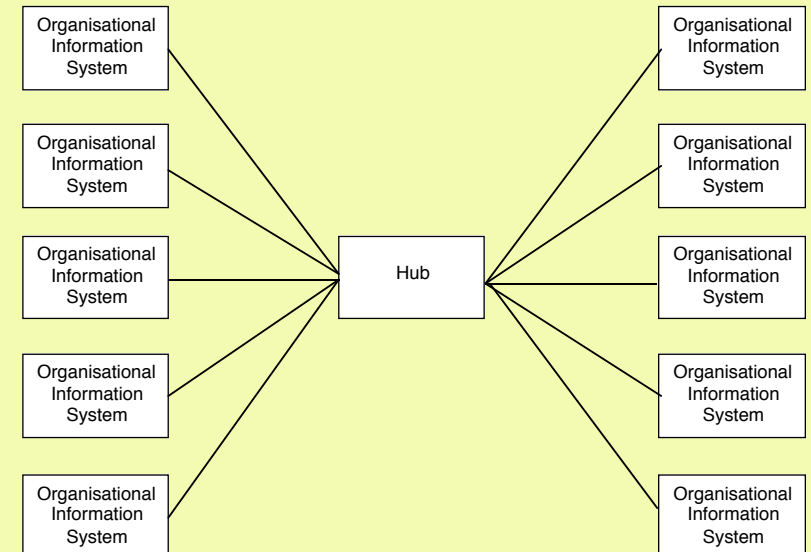
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Categories of Buyer-Seller Topology

- **Inter-Organisational Systems** (1-to-1)
- **Multi-Organisational Systems**:
    - networking (m-to-n) systems
    - hub-and-spoke (1-to-n) systems
    - cascading (1-to-1-to-1) systems
- **Extra-Organisational Systems**

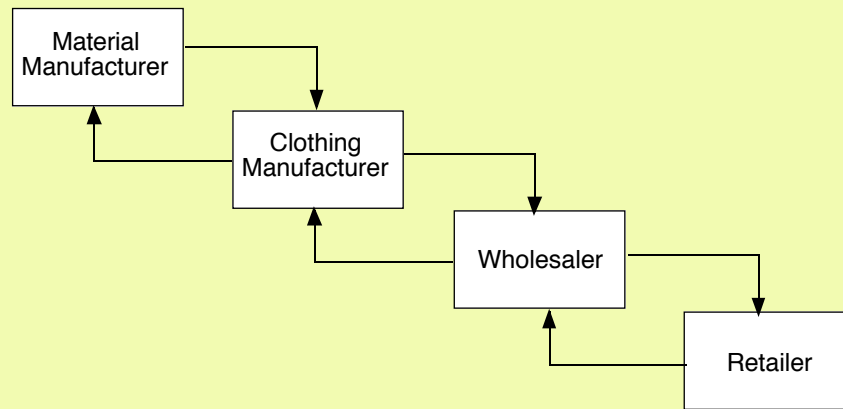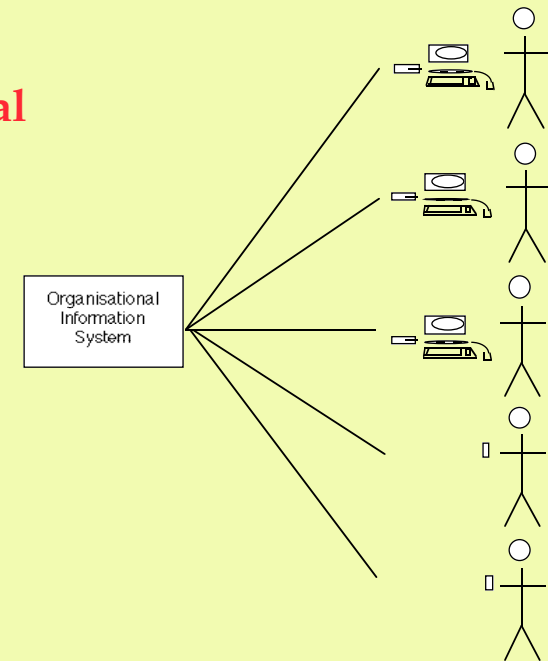- **Brokered Systems** ((1-to-1)-to-(1-to-1))

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Slide 27

Inter- and Multi-Organisational Systems

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Slide 28

Hub and Spoke Systems

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Cascading Systems

```
Material
Manufacturer
        ↓
     Clothing
   Manufacturer
          ↓
       Wholesaler
             ↓
          Retailer
```

Extra-Organisational Systems

Categories of Commercial Arrangements
What's Exchanged?

From Party A	From Party B	Category
• Tradable Item	Money	**Sale**

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• Money	Money	**Cambio**

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From Party A	From Party B	Category
• Tradable Item	Money	**Sale**
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• Money	Money	**Cambio**
• Tradable Items	Bulk Money	**Subscriptions**
	incl. pre-paid, period / site licence	
• Money	Promise of Money	**Lending**

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What's Exchanged?

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• Tradable Items	Bulk Money	**Subscriptions**
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• Money	Promise of Money	**Lending**
• Ads, Vanity Press	Exposure	**Sponsorship**

Public Services?   Freeware?

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Direct Exchange Markets

- **Exchange of Value**   'horse-trading'
    - **Direct**
        - **Immediate**
            - **Reciprocal**

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Direct Exchange Markets, Other Markets

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- **One-Sided Transfer, Without Compensation**
  - donation, the 'gift economy'

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- **Reciprocity, BUT Indirect and/or Deferred**
  - 'barn-raising', 'cooking pot', 'honey-pot'
  - 'shareware', 'open source software'

Auction Process
A Definition

A particular kind of trading process
where price is the key factor to be negotiated
and offers are simple, stating price, perhaps quantity

Auctions are particularly applicable to commodities
(i.e. undifferentiated goods and services)

'An English Auction'

- The Auctioneer identifies the 'Lot'
- The Auctioneer seeks an Opening Bid
- Bidders successively make higher Bids
- The Auctioneer stimulates more Bids
- The Auctioneer warns that time is expiring
- The Auctioneer 'knocks down' to the last Bidder

Common Categories of Auction

- **English Auction** (price runs up, last bid wins, excitement is built in to help the organiser, may be subject to a 'reserve price')

- **Dutch Auction** (price runs <u>down</u>, <u>first</u> bid wins, forces a motivated buyer to bid early and high)

- **Sealed Bid Auction** (bids non-visible, time-limited, competition helps the organiser)

- **Clearinghouse Auction / Exchange** (both sellers and buyers submit offers, offers are 'matched', may be continuous or periodic)

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Clearinghouse Auction / Exchange Special Challenges

- **Trading Volumes** can be substantial e.g. shares, derivatives, forex

- **Volatile Prices**, which attract 'day traders' and 'arbitrage dealers', which increases 'market depth', but also further increases volatility

- **Matching** needs to be performed fairly, e.g. priority based on price, then time of receipt

- **Price-Based Matching is not enough** because offers to buy and to sell, whose prices match, may not be for quantities that match

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E-Trading Markets

Agenda

1. e-Trading, Markets, Marketspaces
2. Tradable Items
3. Trading Partner Relationships
4. Processes
   - Deliberative Procurement
   - Spontaneous Purchasing
5. Trading Partner Topologies
6. Auctions

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