ICS 132: Organizational Information Systems

E-Commerce - I

two central questions

- what is e-commerce?
  - the role of technology?
  - the impact on organizations?
- just how does it change things?
  - a radical idea?
  - brave new world?
  - more of the same?

the hype cycle

- a standard chicken-and-egg problem
  - adoption amongst vendors
    - investment in infrastructure
    - electronic presence can be about brand equity as much as commercial necessity
  - adoption amongst consumers
    - emergence of new conventions of practice
    - balance between online and offline practices

adoption is a two-way street

ecommerce

- this week’s lectures are on ecommerce
  - because it’s a major “cultural event”
  - because it draws together many of our concerns
    - markets, economics, communication, data
    - the “coevolution” at the center of the class

ecommerce?

- ecommerce – a radical new idea?
- let’s think back...
ecommerce?
- ecommerce – a radical new idea?
- let’s think back...
  - commerce 5000 years ago

buyer
locates
seller

selection of goods

negotiation

sale

payment

delivery

post-sale

two components
- commerce has always depended on information
  - what’s different in ecommerce is the medium
  - electronic forms of communication and exchange
    - telephone, television, the Internet
- commercial transactions have two components
  - an information component
    - product availability, customer preferences, etc.
  - a physical component
    - exchange of payment and goods, etc.
  - arguably, it’s the physical side that’s more difficult

two questions
- two questions for ecommerce
  - how to improve or transform the information component?
    - better information
    - more effective use of the information you have
  - how to manage the physical component?
    - logistics
    - payment systems
- but ...

ecommerce impacts
- technology and practice co-evolve
  - new forms (e.g. ecommerce) arise out of old
  - new technologies provide new opportunities
  - there are some substantive impacts
- think about this material on three levels
  - those that haven’t changed at all
    - e.g. markets, costs, speed
  - changes in mechanism but not in practice
    - e.g. payment systems, disintermediation
  - fundamentally new
    - e.g. demand aggregation, mass customization
A framework (Zwass, 2002)

- electronic marketplaces
- products and systems (e.g., consumer services)
- enabling services (e.g., directories, dig. libraries, auditing)
- secure messaging (e.g., EDI, SSL)
- hypermedia object management
- communication utilities
- wide-area telecommunications

Zwass’ framework

- infrastructure
  - technically, ecommerce pre-dated the Internet
    - “EDI” is a term in use since the 1970s
  - culturally, it’s a new phenomenon
    - growth in infrastructure and access to infrastructure
    - interesting case: mobile ecommerce in Europe
- services
  - importantly, frequently rely on third parties
    - e.g., financial services; trusted third parties (TTP) for crypto
- products and structures
  - ecommerce may result in new forms of product
  - but more especially new marketplaces

Pressures towards ecommerce

- why pursue an online strategy?
  - visibility to more customers
  - reduce costs (inventory, stores, salaries, etc)
  - improved efficiency through electronic processing
  - integrate operations with suppliers
- the important thing about these...

Efficiency arguments (1)

- the context for organizational life
  - the organization’s environment changes all the time
    - remember the organism argument
    - much ecommerce is a response to those changes
    - in other words, it’s more of the same
- efficiency arguments part of first category
  - “things that haven’t changed at all”
  - efficiency was always important

Pressures towards ecommerce

- why pursue an online strategy?
  - visibility to more customers
  - reduce costs (inventory, stores, salaries, etc)
  - improved efficiency through electronic processing
  - integrate operations with suppliers
- the important thing about these...
  - ... is that we’ve seen them all before
  - these are standard arguments for competitiveness
    - e.g., Pearson’s three strategies; Bakos and Treacy

Ecommerce impacts (2)

- the second level
  - changes in mechanism but not in practice
    - things we were doing before, but can now do in new ways
- two examples
  - “disintermediation”
  - payment systems
**disintermediation**

- "disintermediation"
  - "dis-" + "intermediary" + "-ation"
  - non-technically, cutting out the middleman

- producer -> wholesaler -> retailer -> consumer

**disintermediation**

- perceived advantages
  - reducing costs
  - building a closer customer relationship
  - and presumably getting more information from them
- the most extreme form
  - bypass yourself!
  - Dell Computer: from production to logistics

**disintermediation**

- costs and benefits
  - disintermediation in digital libraries?

**disintermediation**

- disintermediation isn't a new phenomenon
  - producers exploit multiple "channels"
    - direct sales, outlets, major retailers, etc
  - electronic commerce provides a new channel
    - explicit in a "clicks and mortar" approach
    - combines traditional and electronic commerce
- disintermediation is a "level 2" phenomenon
  - not a new mechanism, but conducted in new ways

**assignment**

- e-commerce and m-commerce
  - discuss challenges and opportunities for m- (mobile) commerce, drawing on
    - Zwass' framework (and perhaps Bakos and Treacy's model)
  - should write
    - about a page, 11pt, single-spaced (500-700 words)
    - no more than two pages
    - don't worry about summary; focus on two or three main points
  - on the website, you'll find
    - an article on mobile commerce (a starting point)
    - Zwass' article
**next time**

- assignment due
- more "level 2" impacts
  - payment systems
- "level 3" impacts
  - mass customisation
  - demand aggregation
- overall assessment