ICS 132: Organizational Information Systems

Organizational Communication

overview

- communication and decision making
  - information systems support decision making
    - information access
    - information sharing
    - coordination
- communication and genre
- communication and organisational structures
- typology of information systems

mintzberg on managers

- managers don't spend much of their time "making decisions"
- they spend their time talking to people:
  - to understand the problems they're having
  - to get ideas from people
  - figure out if people are doing the right things
  - encouraging people to do good work
  - helping people sort out problems

what does communication do?

- various functions
  - sharing information – "all on the same page"
  - getting information from place to place
    - what's happening over there?
    - remember, responsive to environment
  - building trust
- communication supports decision-making
  - three phases
    - preparation
    - informing
    - monitoring

aspects of communication

- formality
- directedness
- temporality
- richness
- persistence
- genre

the emergence of the memo

- the form of the memo
  - "to", "from", "subject" headings
  - subheads and lists
  - formal language
  - no greeting or sign-off
- the memo wasn't always around
  - essentially invented between 1870 and 1920
  - why?

the emergence of the memo

- organisational growth
  - geographical growth
    - everyone doesn't share a common environment
  - structural growth
    - the emergence of middle tiers of management
- Scientific Management
  - documenting the process
  - regimenting and controlling organisational work
- technology
  - typewriters and filing cabinets

genres of communication

- genre is a social construct
  - it provides a set of expectations
  - it makes actions meaningful and sensible
  - it supports coordination between participants
  - it emerges from interactions over time
- genre has technical components, too
  - it is tied to the medium of production
    - timeliness
    - distribution

genres of communication

- the committee meeting
- the resume
- the memo
- the presentation
- the conference

- what are:
  - their components?
 - their functions?

using genres

electronic memos?

- email as a medium for electronic memos
  - email shares some properties with memos
    - the formal structure
    - enabling one-to-many communication
  - in the 80s, many organisations introduced email
    - automating vertical communication
      - distributing instructions, reporting results
    - the unexpected outcome…

social networks

- "it's not what you know, it's who you know"
  - multiple, overlapping groups
  - remember the functional organisation structure?
- the spread of organisational information
  - how does information spread?
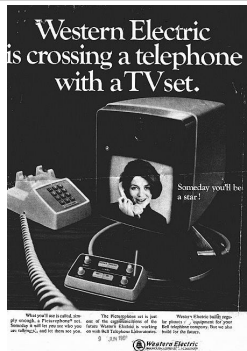
social networks
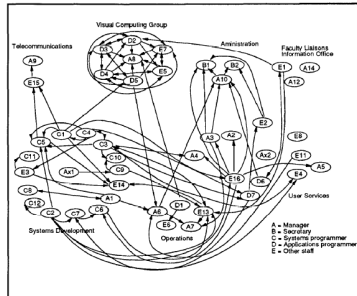
from Mackay, 1990

newer forms

- communication is always evolving
  - different technologies support different genres
- newer forms:
  - desktop videoconferencing
  - corporate intranet
  - enterprise information portal
  - workplace IM

videoconferencing

Western Electric is crossing a telephone with a TV set.

Someday you'll be a star!

the failure of videoconferencing

- 1970s videoconferencing failed spectacularly
  - technical reasons
    - interacting with artifacts
    - resolution, field of view, etc
  - cultural reasons
    - why won't you come to meet me?
   - the formal and informal aspects of meetings

desktop videoconferencing

- desktop videoconferencing is quite different
  - 1990s: H.261 over ISDN
    - ISDN is 128kbps data + 16kbps signal
    - QCIF: 176 x 144, 5-10fps
  - 2000: Internet
    - Quicktime, RealPlayer, streaming video
- what factors make it more successful?
  - a different niche
    - less expensive makes it less formal
    - spontaneity
  - immediate control of technology
  - combined with other forms of communication

distance learning

- video for distance learning?
  - California Master Plan for Higher Education
  - opportunities
    - extending reach
    - accessing archives of material
  - problems
    - interaction – asking questions, getting answers
    - feedback – hard to gauge how material is going over

distance learning
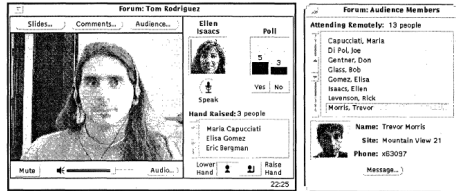
This is from Sun... interesting work from Microsoft too...

decision-making

- mintzberg's description
  - the role of communication in decision-making
- problems in decision making
  - framing
  - recency effect
  - primacy effect
  - poor probability estimation
  - overconfidence
  - escalation phenomena
  - association bias
  - groupthink

decision-support systems

- explicitly supporting decision making
  - embody a model of the process
    - e.g. gather data, formulate hypotheses, determine criteria, brainstorm alternatives, select and evaluate, compare, decide
  - two forms of support
    - specialised tools for parts of the process
    - managing the process overall
    - individual tools focus on analysis, group on process
  - issues
    - domain knowledge
    - DSS vs data mining vs information visualisation

alter's system typology

- office automation
- communication
- transaction processing
- management information systems
- decision support systems
- execution systems

OA & TP

- office automation
  - certain classes of workflow (focus on *automation*)
  - Alter includes productivity tools
    - it's not clear that Word automates much
- transaction processing
  - primarily, databases
    - also their immediately surrounding processes
   - data validation
      - notifications

MIS/EIS

- focus on "keeping on top of things"
  - monitoring performance
  - maintaining coordination
- it's a question of perspective
  - databases record what's going on
  - MIS systems contextualise it
- MIS -> EIS?
  - Alter tries to persuade us that this is a real difference...

execution

- helping you actually do the work
  - workflow & monitoring technologies
  - specialised applications for specialised work
    - surgical, TELE, graphic design…
  - expert systems
    - capturing procedural knowledge and making it available
    - remember who's the expert…
      - the trick to knowing something is knowing when and how to apply it

architecture
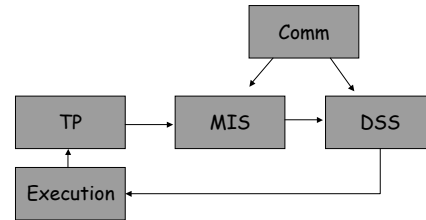
problems

- information overload
  - 1996 paper: "mean number of inbox items is 2482"
- misinterpretation
- social context
- power relationships
  - difficult for people in the middle
- privacy
  - who owns your email?

summary

- communication isn't just bits on the wire
  - communication achieves coordination
  - communication supports decision-making
- communication isn't just what's said
  - genres shape and structure our expectations
  - genres provide resources for interpretation
  - the medium is the message
- typology of information systems
  - these are *facets*, not absolutes