# Session 5

World Med MBA

# This Session

- The focus of this session in *inter* - organizational strategic alignment

- Strategies that:
  - Act in the boundaries between companies
  - Are used to create new ways of working
  - Are facilitated by IT / IS

# Changing Organizations

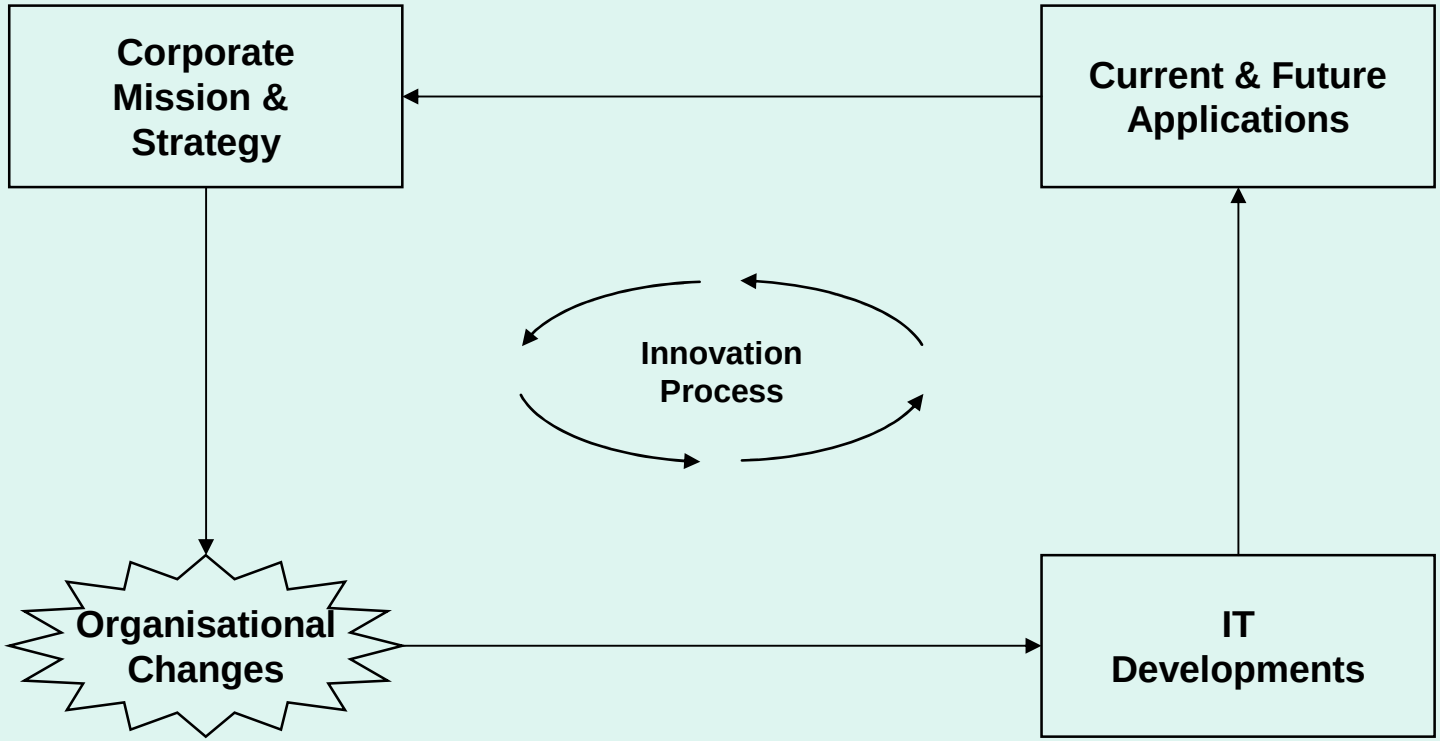
# Organizational Form

- The design of an organization is an exercise in matching structures, systems and style of management, and the people employed, to the various activities of the organization.
  - » (Mullins, 1997)

# Structure and Strategy

- Organizations have always adapted their organizational structure to suit their strategy:
  - The factory system
  - Centralization and vertical integration
  - Decentralization and outsourcing
  - Product groups and geographical markets
- The same process continues today

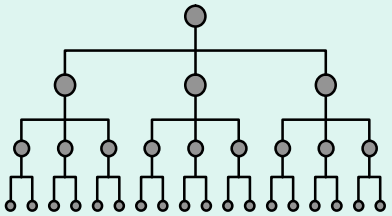
# Structure and Strategy



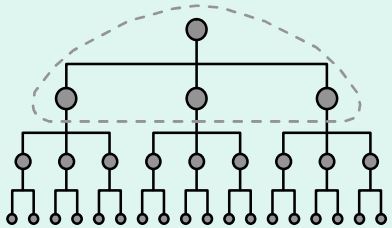
# Organizations

- Previously we said that an organization:
  - Has a goal or strategic objective
  - Has a recognizable boundary
  - Has a recognizable structure
- Organizations adapt their structure to suit their strategy, but do organizations still need boundaries?

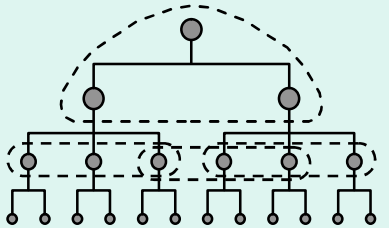
# Emerging Organizational Forms



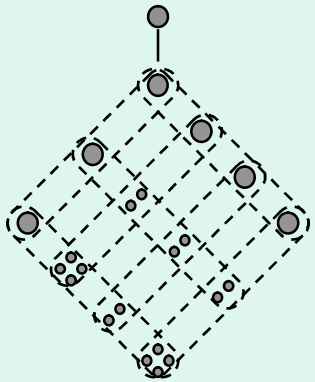
The classic bureaucracy



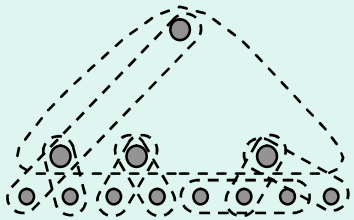
Bureaucracy with a 'management' team



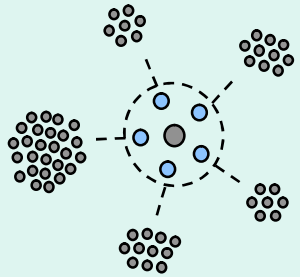
Bureaucracy with team & task forces



The matrix organization



The project organization

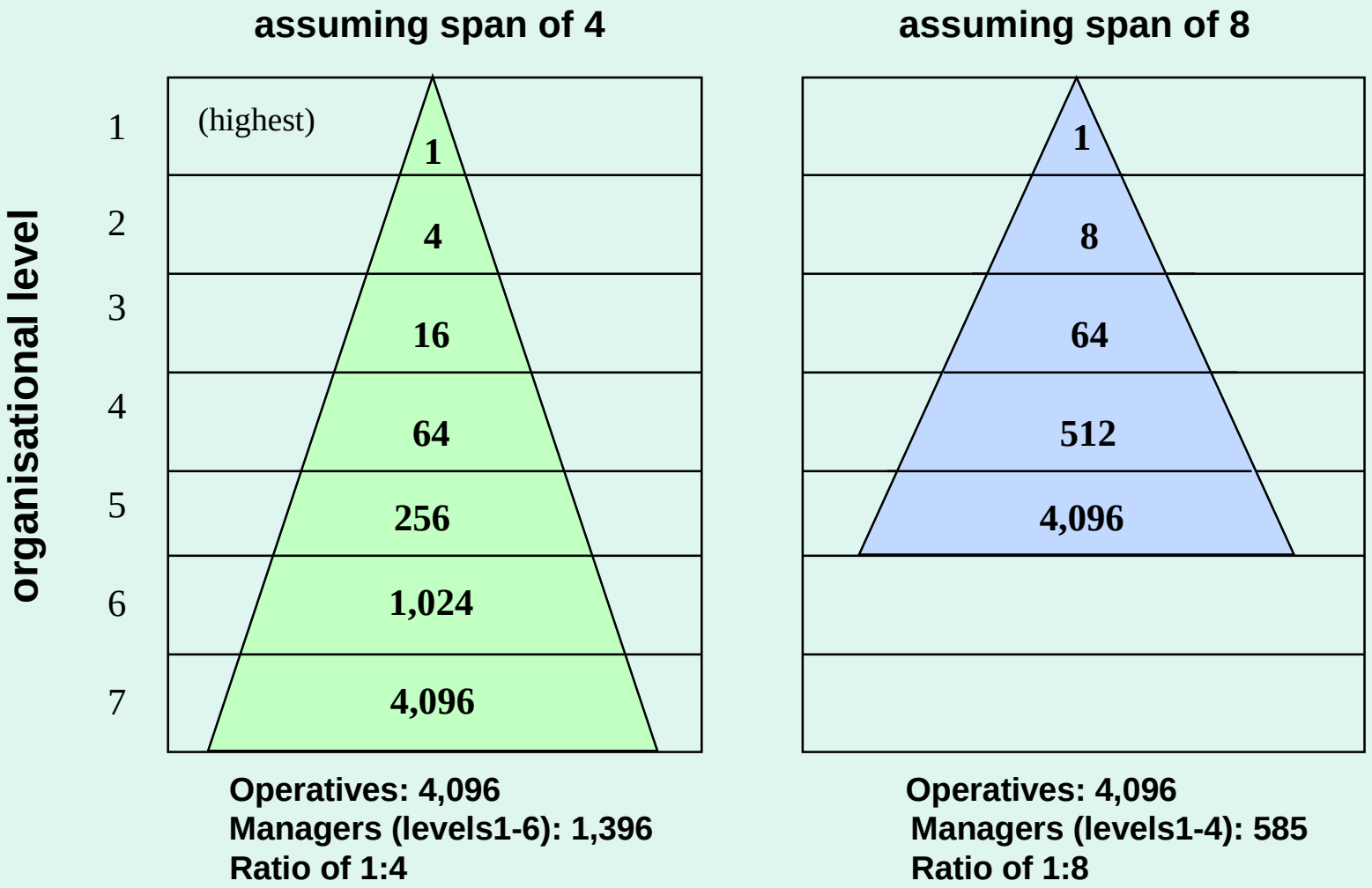


The organic networked organization

# Classic Hierarchies

- Based on compartmentalization, division of labour and a clear chain of command
- Span of control determines the overall "shape" of the organization
  - "Flat" hierarchies ➔ broader span of control, fewer levels of authority
  - "Tall" hierarchies ➔ narrower span of control, more levels of authority

# Levels and Span of Control



# Centralized vs Decentralized

- Centralization
  - Authority for decision making is concentrated on a small group of managers at the top of an organization.
- Decentralization
  - Authority and responsibility are more widely dispersed giving units, branches and lower-level managers more autonomy.

# Changing Ways of Working

# Example 1 - Telework

- Distributed working
- Telecommuting
- Flexible working
- e-Working
- Remote working
- Agile working
- Teleworking
- Mobile working
- Home-based working
- Virtual team
- Virtual office
- Hoteling
- Telecottage
- Telecentre
- Functional relocation
- Flexible work program
- Outsourcing
- Hot desking

**There is no agreed definition of telework**

# Telework

- European Telework Online define telework as:
  - Telework occurs when information and communications technologies (ICTs) are applied to enable work to be done at a distance from the place where the work results are needed, or where the work would conventionally have been done.
- This definition includes:
  - Home-based telework or telecommuting, Mobile telework, Telecentres and Telecottages, Functional relocation, Outsourcing, Distributed or Virtual Team Working ...

# Problems with Telework

Telework is always "work at a distance"

- Few opportunities for social or professional interaction - can lead to stagnation and poor performance
- Can be difficult to manage without face-to-face contact - can lead to sub-optimal use of resources and a loss of motivation
- "Passing the baton" - the co-ordination of activities and maintaining synchronicity - can lead to delay and inefficiency

# Problems with Telework

Becoming a member of a community:

- Building and maintaining a sense of belonging and community among teleworkers is difficult and can often solved only by arranging regular face-to-face meetings.

# Problems with Telework

Exchange experience and gain knowledge:

- Exchanging experience and gaining new knowledge is more than the exchange of data or documents. Even when data or documents are available, a social or organizational context is often required for it to make any sense.

# Summary

- Telework can cover a huge range of activities, but will always involve computer mediated communication.
- An understanding of both people and technology are needed to make telework a success.

# Example 2 - Virtual Teams

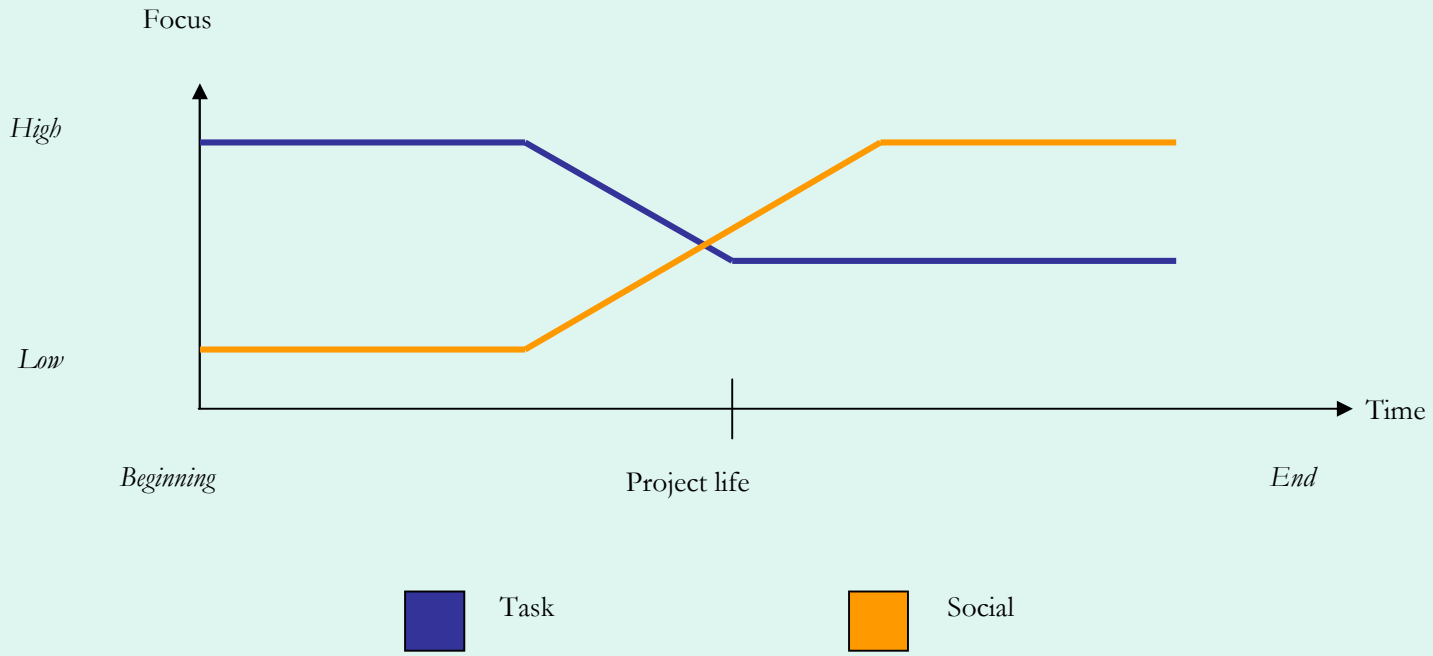
- Members may be:
  - From the same organization or from a number different organizations
  - Be co-located or be geographically separate
  - In the same or different time zones

# Teams Aren't What They Used To Be

- From
  - Fixed team membership
  - All team members are drawn from within the organization
  - Team members are 100% dedicated to the team
  - Team members are co-located organizationally and geographically
  - Teams have a fixed starting and ending point
  - Teams are managed by a single manager
- To
  - Shifting team membership
  - Team members can include people from outside the organization
  - Most people are members of several teams
  - Team members are distributed organizationally and geographically
  - Teams form and reform continuously
  - Teams have many reporting relationships

# Virtual Teams

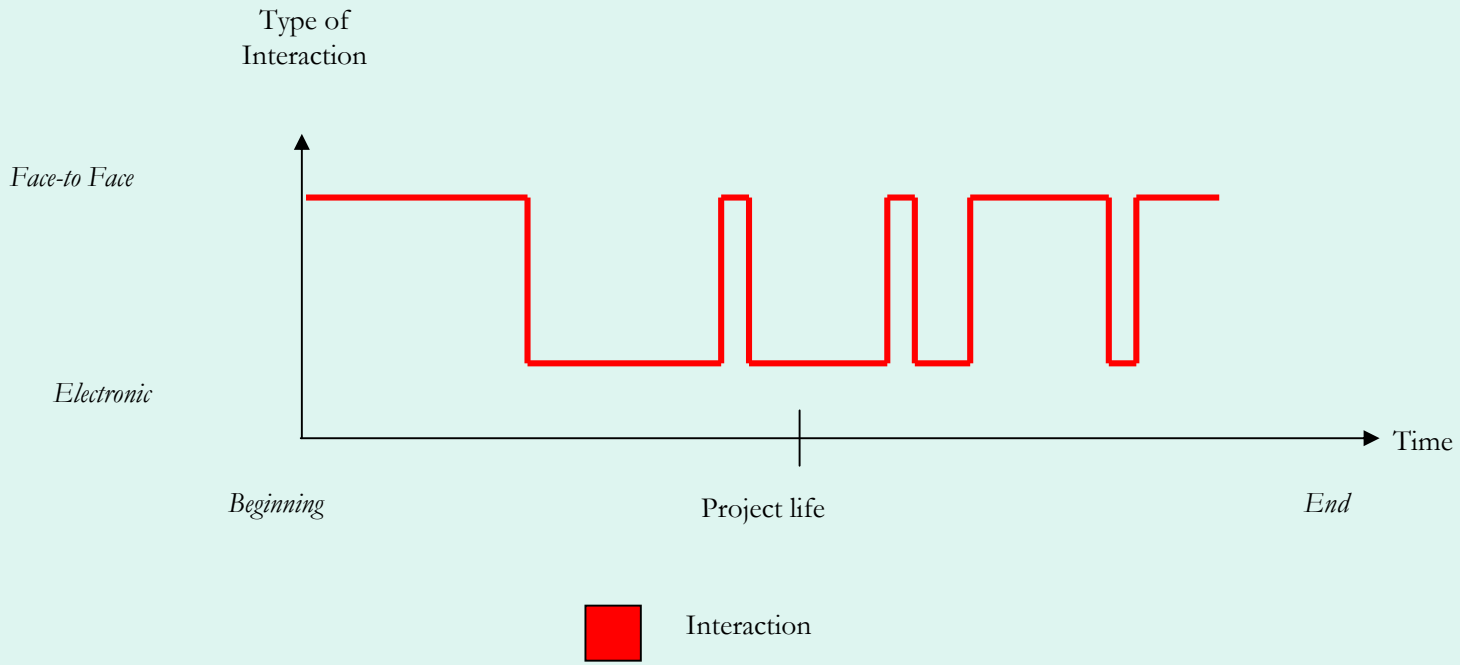
Communication may begin with a social focus and a task focus will emerge in time




*Focus of the communication over time*

# Virtual Teams

Face-to-Face is needed to form relationships and become familiar with another's work style




*Change in the type of interaction over time*

# Problems with Virtual Teams

- The 'real life' aspects of the work are often neglected or underplayed
- Example: 'brain storming'
  - When groups are co-located, co-presence and interaction is not a problem; but when the work becomes temporally or geographically distributed, interaction and co-presence can be problematical

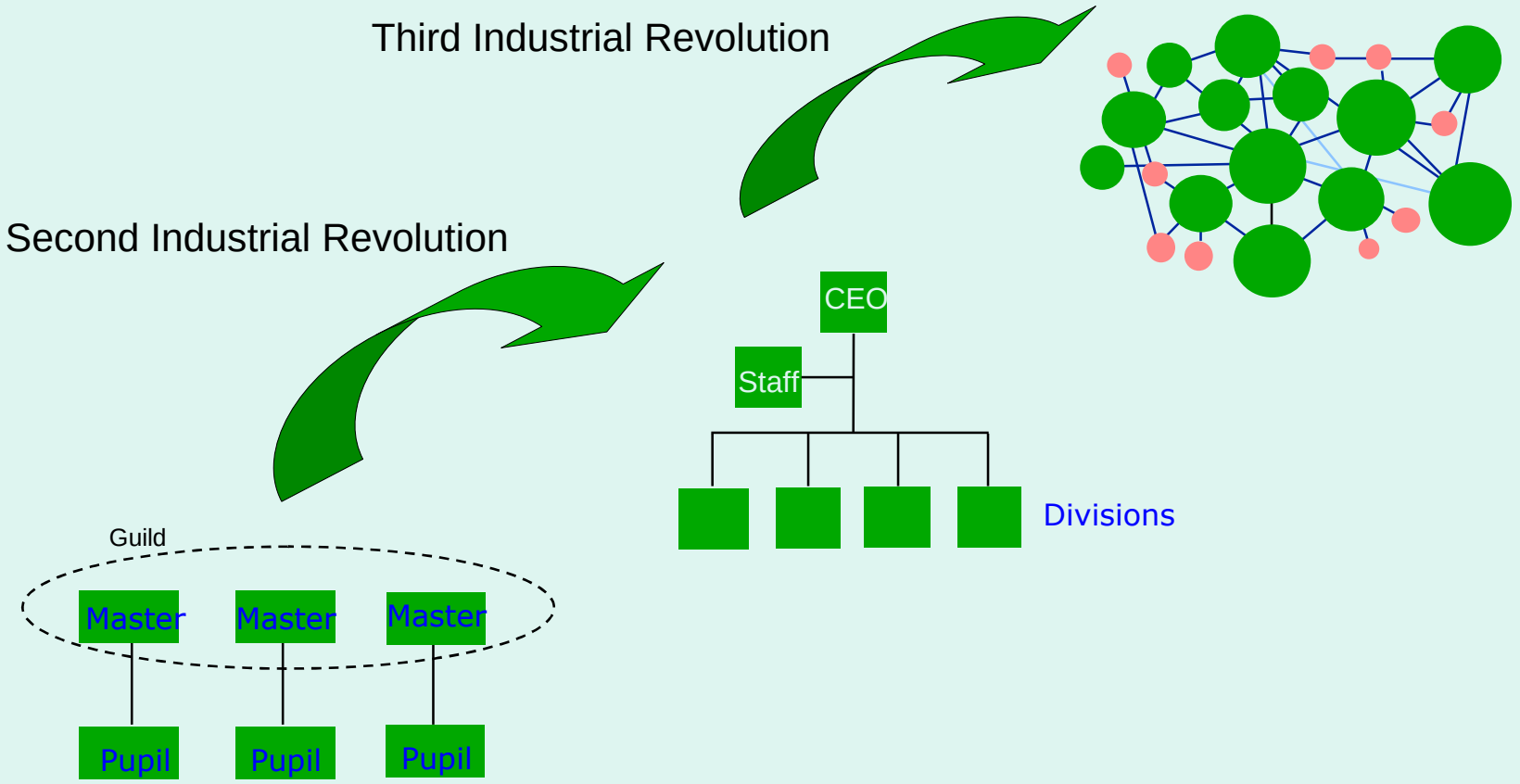
# Summary

- Virtual teams are just as complex as 'real' teams.
- Even if simplified (e.g. virtual task groups) problems still remain.
- Technology can provide a partial solution but human relationships remain important.

# Example 3 - Networked Organizations

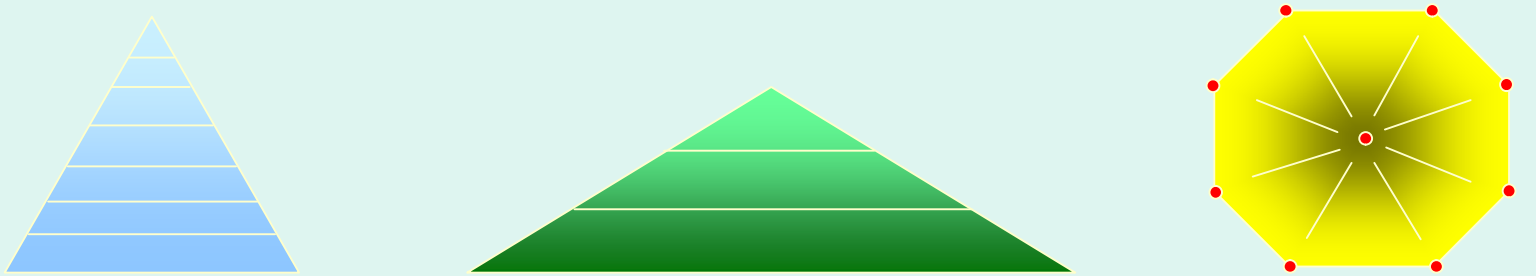
- Management is based on a sense of mutual responsibility rather than following orders.
- People gain authority not from a hierarchy but from individual's recognized knowledge and skill.
- Characterized by informal communications (both face-to-face and over electronic networks).
- People and teams cross conventional boundaries (e.g. Functional and geographic).

# Networked Organizations



# Networked Organizations

**Hierarchical Organisation** | **Flattened Organisation** | **Network Organisation**

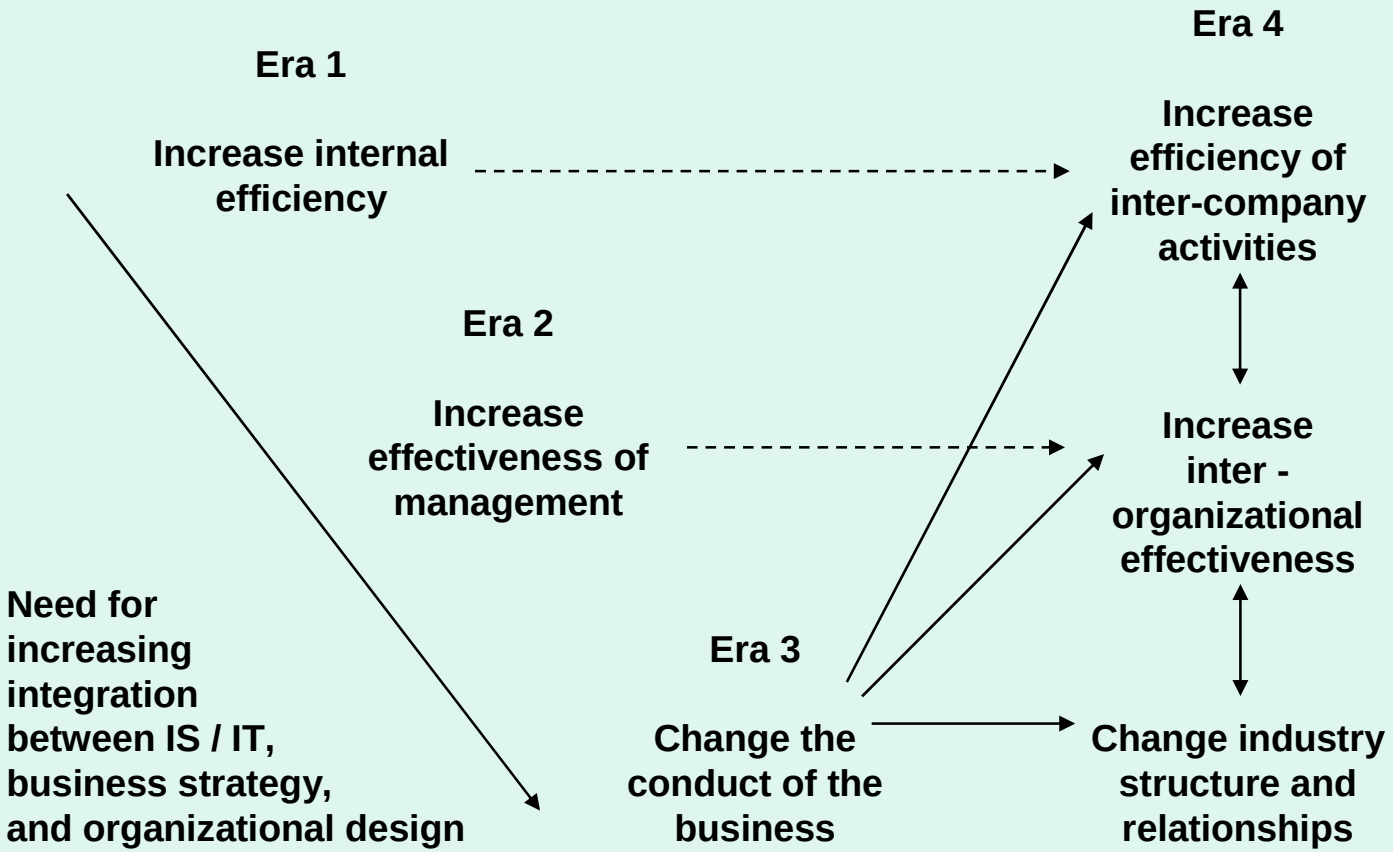


**Use of authority by the manager** → **Autonomy for subordinates**

| Manager makes decision and announces it. | Manager presents ideas and invites questions. | Manager presents decision as subject to change. | Manager presents problem, asks for suggestions, makes decision. | Manager defines limits, and asks group to make decision. | Manager permits subordinates to act within specified limits | Manager allows complete autonomy within a node of the network |
|---|---|---|---|---|---|---|

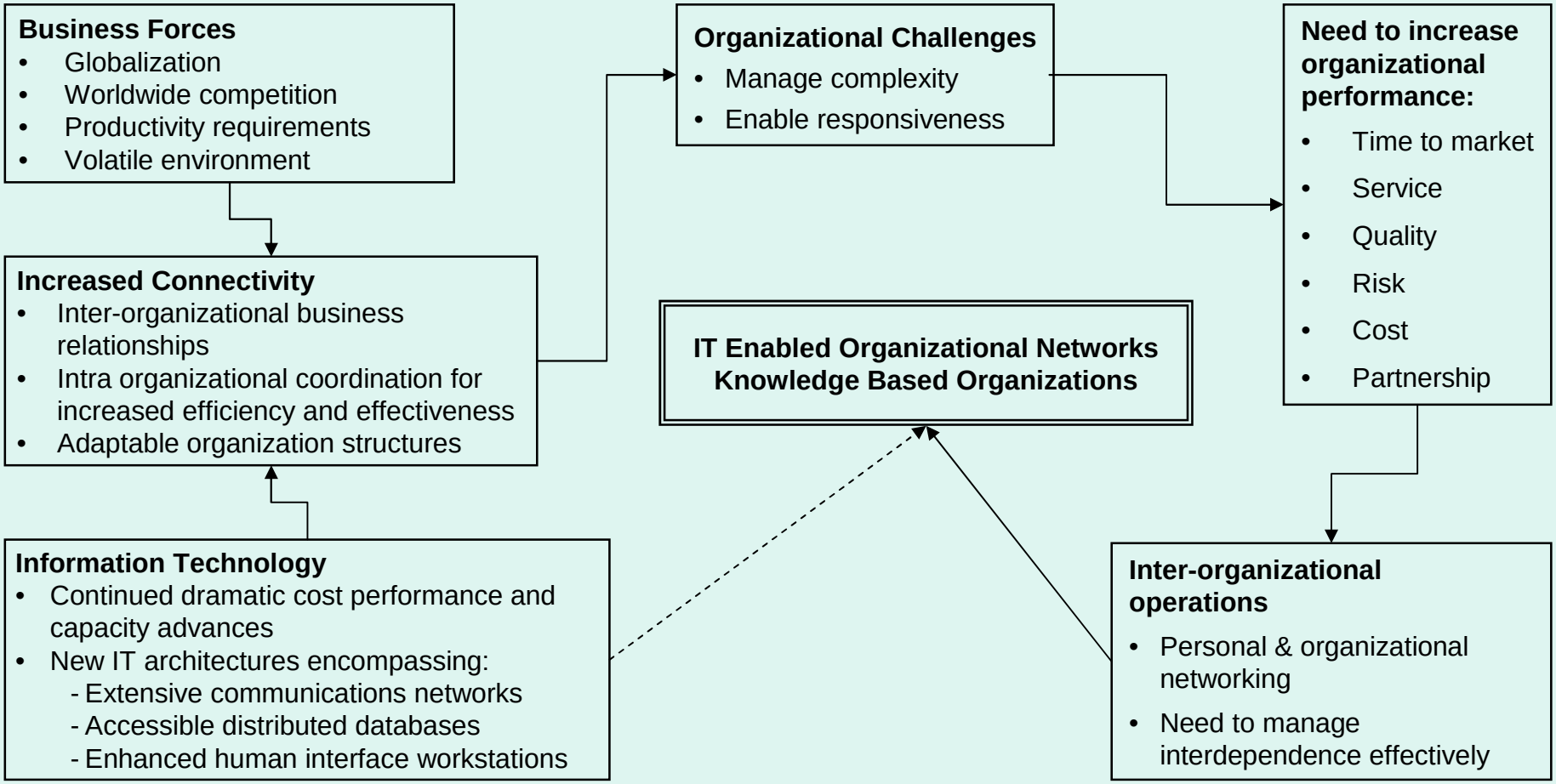
Adapted from Turban et al. (1999). Information Technology for Management

# Networked Organizations




Adapted from Ward (1990)

# Networked Organizations




Adapted from Scott Morton - The Corporation of the 1990s

# Problems of Network Organizations

- Lines of authority become blurred
- Increased complexity and rate of change
  - Changing measurement systems
  - Changing accountability and authority
  - Changing planning processes
  - Changing technology infrastructure
- Increased skill requirements

# Summary

- ✓ Knowledge workers thrive in organizations that welcome initiative
- ✓ Thinking people are valued - executives, professionals and service personnel
- ✓ Positions demanding professional / specialist knowledge are increasing
- ✘ Middle management jobs are vanishing
- ✘ Clerical and manual tasks are being lost
- ? Emphasis on individual responsibility for relationships and for communications

# Collaboration and Innovation

# Networks and Innovation

- It is now received wisdom that innovation comes from sharing knowledge across organizational boundaries:
  - Conway (1995) traces the idea back to the 1950s
  - Teigland and Wasko (2003) claim the idea originated in the 1960s
  - Henderson (1990) says it came from literature on product design from the 1970s
  - ...

# Networks and Innovation

- Mark Granovetter (1973) provides 'proof':
  - He interviewed about 100 people who changed jobs in the Boston area
  - More than half had found their job through personal contacts, most of whom were indirect contacts (weak ties)
  - A surprising result because family and friends (strong ties) are usually more willing to help
  - You need weak ties because they give you better access to new information

# Networks and Innovation

- Other factors:
  - The resource-based view of the firm highlights the role of collaboration in acquiring resources a firm does not possess
  - Outsourcing can lead to more cross-boundary collaboration
  - The growth of new forms of organization such as the networked organization also play a part

# Networks and Innovation

- In knowledge intensive firms work is done in informal groups; knowledge workers rely on their contacts to gain access to knowledge and new ideas.
- However, the virtualization of the work environment is in danger of hiding the networks that knowledge workers depend upon to do this.

# Roles in Networks

- The Central Connectors - who link most people in the social network.
- The Boundary Spanner - who connect an social network with other parts of the organisation or with other similar networks.
- Information Brokers - keep the different sub groups in a social network together
- Peripheral Specialists - who anyone can turn to for specialised expertise

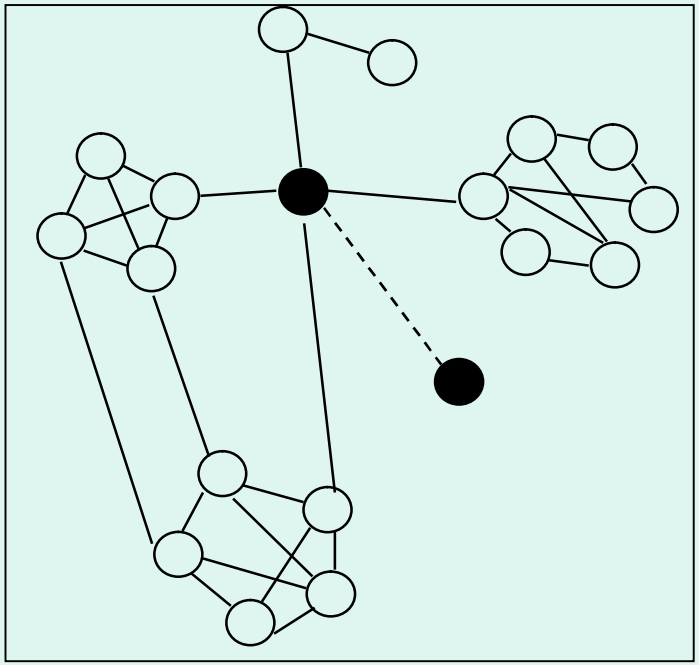
Cross & Prusak, 2002

# Social Networks

- It's not what you know, it's who you know

Nodes represent people.

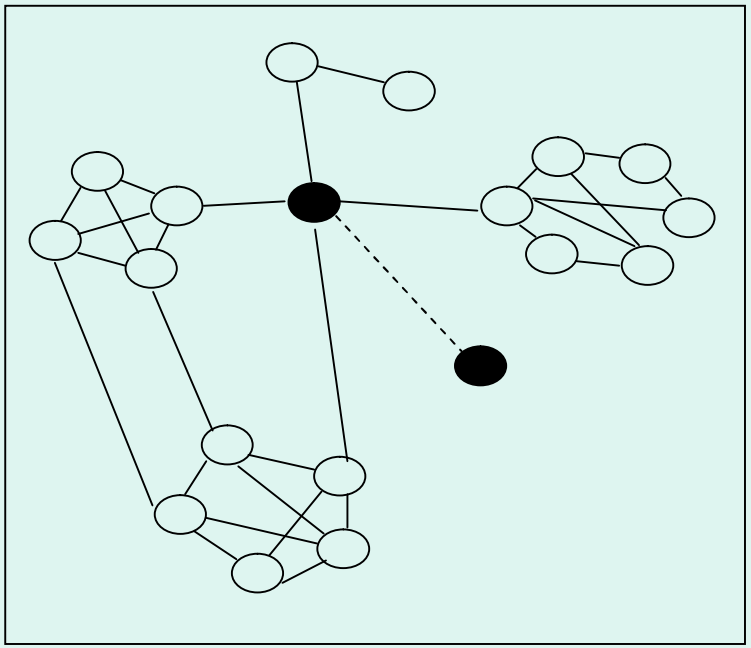
Links represent who knows who.



How can I get in touch with person X?

# Knowledge Networks

- Who knows what?



**Nodes represent the individuals, teams locations, organisations …**

**Links representing the shared knowledge, e.g.**

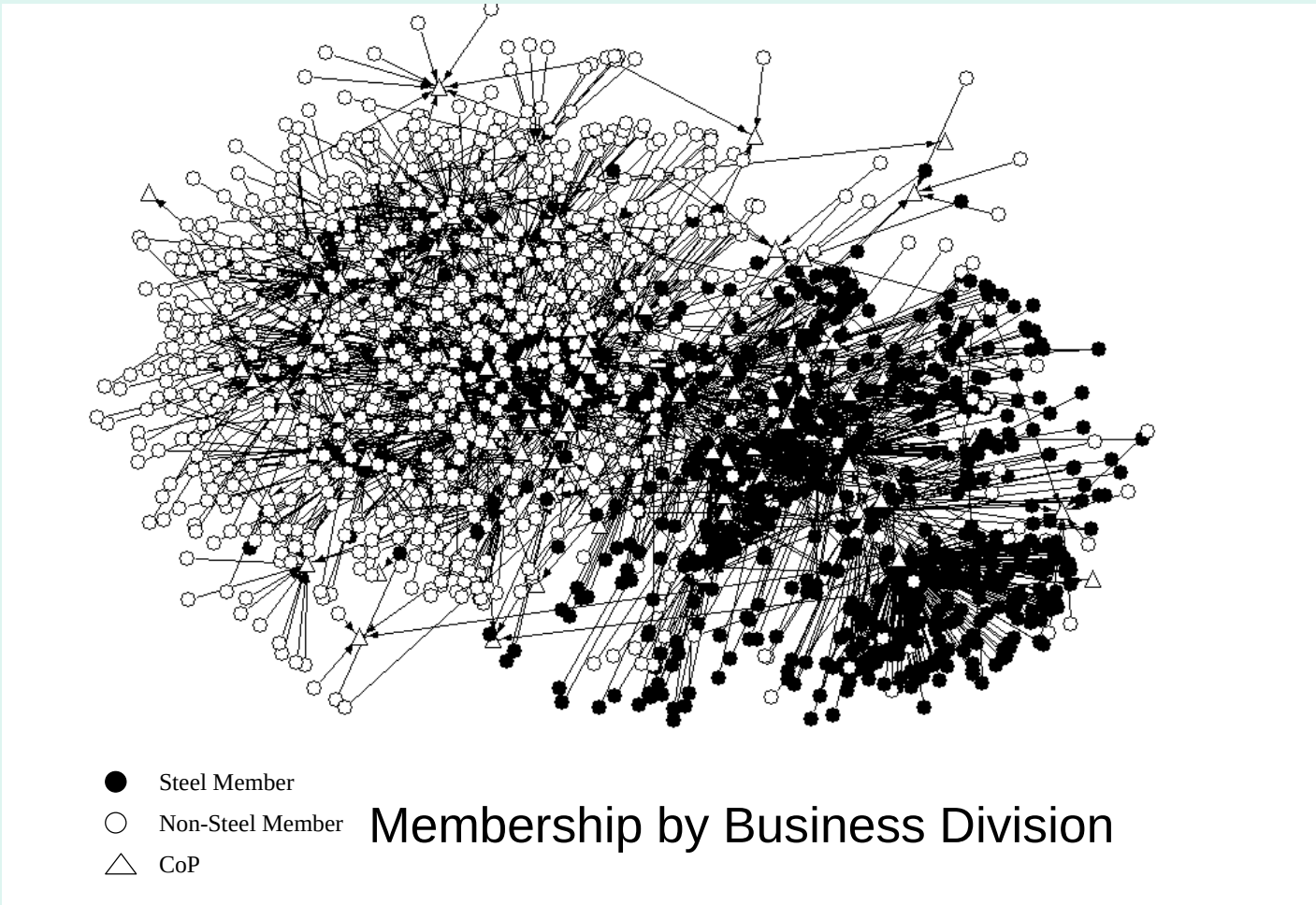
**(i) skills,**
**(ii) expertise**
**(iii) activities,**
**(iv) interest sets,**
**(v) interpretations of goals**
**(vi) work flow information.**

I need to find out something about X, where do I get the information?

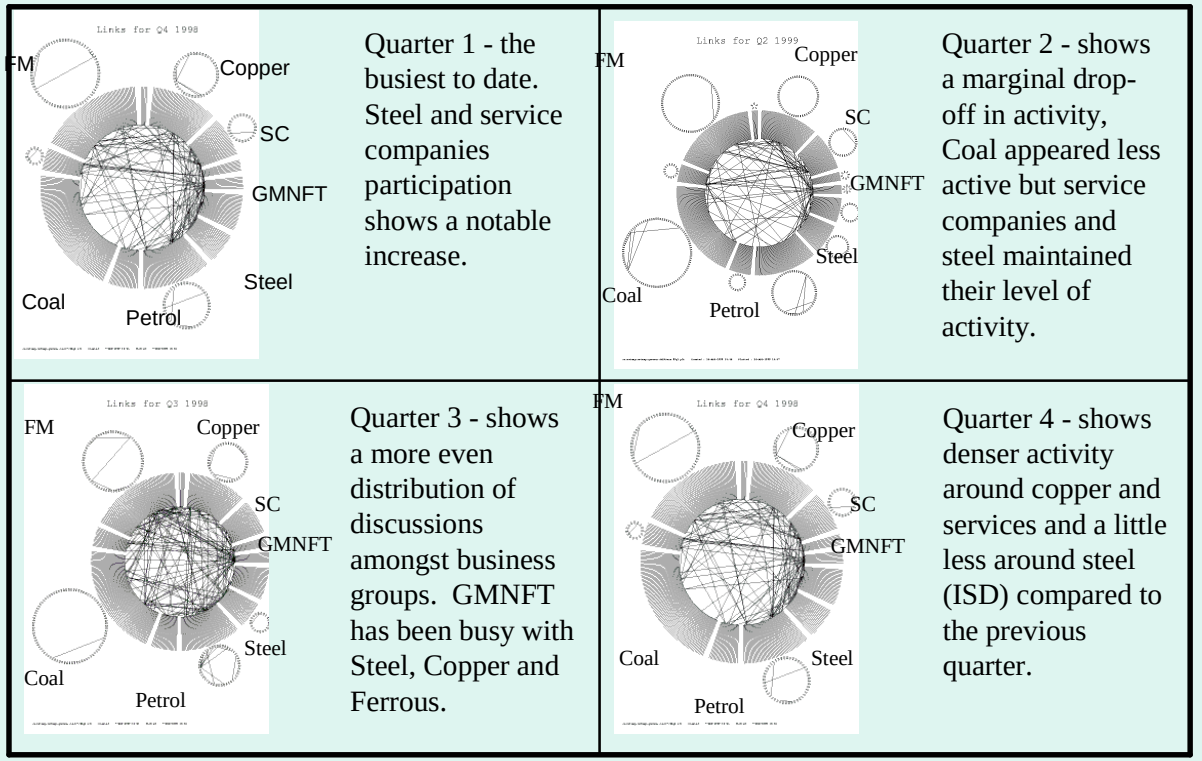
# Examples from Industry

- BHP
  - One of the world's largest diversified resources company, with a strong industrial heritage and a mix of blue and white collar workers and levels of IT literacy
- CSC
  - One the world's leading IT service providers, with a highly IT literate staff and a relatively sophisticated IT support environment

# BHP


Steel Member
Non-Steel Member
CoP
Membership by Business Division

# CSC


Links for Q4 1998
FM
Copper
SC
GMNFT
Steel
Coal
Petrol
Quarter 1 - the busiest to date. Steel and service companies participation shows a notable increase.
Links for Q2 1999
FM
Copper
SC
GMNFT
Steel
Coal
Petrol
Quarter 2 - shows a marginal drop-off in activity, Coal appeared less active but service companies and steel maintained their level of activity.
Links for Q3 1998
FM
Copper
SC
GMNFT
Steel
Coal
Petrol
Quarter 3 - shows a more even distribution of discussions amongst business groups. GMNFT has been busy with Steel, Copper and Ferrous.
Links for Q4 1998
FM
Copper
SC
GMNFT
Coal
Steel
Petrol
Quarter 4 - shows denser activity around copper and services and a little less around steel (ISD) compared to the previous quarter.

# Networks and IS / IT

# Distributed Collaborative Work

Distributed Collaborative Work (DCW) is:

- Collaborative Work
  - is work that is undertaken as part of a group activity and is directed towards a shared goal or a common purpose
- Virtual (Distributed) Work
  - using technology and a reliable communications infrastructure to support "working at a distance"

# Distributed Collaborative Work

- Distributed
  - Physically, e.g. carried out in different places
  - Temporally, e.g. carried out at different times
- Collaborative
  - Part of a group activity
  - Shared goal or some common purpose
- Work
  - Completing a task
  - Social interaction

# Hot and Cold DCW

- Hot DCW
  - Interactive work, done in association with others that requires the active participation of other members of the group.
  - Also known as 'synchronous, 'closely coupled' or 'on-line' collaborative work

# Hot and Cold DCW

- Cold DCW
  - Individual work that is part of some collective activity but does not require the active participation of the other members of the group.
  - Also known as 'asynchronous, 'loosely coupled' or 'off-line' collaborative work

# DCW and KM

- Hard Knowledge
  - Is unambiguous and unequivocal
  - Can be clearly and fully expressed
  - Can be formalized and structured
  - Can be 'owned' without being used
  - Is both abstract and static: it is about, but not in, the world

# DCW and KM

- Soft Knowledge
  - Is implicit and unstructured
  - Can not be easily articulated
  - Can be understood without being openly expressed
  - Is associated with action and can not be possessed
  - It is about what we do and is acquired through experience

# Putting it Together

- Hot DCW & Soft Knowledge
  - Interactive work where less structured forms of knowledge can be created and exchanged through discourse.  When supported by technology groups of experts can work synchronously together while being physically apart.

# Putting it Together

- Cold DCW & Hard Knowledge
  - Individual work where knowledge can be fully and clearly expressed and then passed on to others. When supported by technology, individuals can be free to work whenever and wherever they (or their managers) want.

# Work Related Networks

- Two types of work related network
  - Networks of Practice
    - Links people together whom they may never get to know but who work on similar practices
  - Communities of Practice
    - A group of people who regularly share information, ideas and advice about a particular topic. Over time they build a shared history and identity

# Some Lessons from Xerox

- See Xerox Case study

- Read - Bobrow, D., & Whalen, J. (2002). Community Knowledge Sharing in Practice: The Eureka Story. Reflections, 4(2), 47-59.

# Some Lessons from Xerox

- 1987 = The Rapper Project - an expert system
    - Failure
- 1991 = A study of storytelling / community building
    - Success

# Some Lessons from Xerox

- Early 1990s = Colombos  - using Minitel with small groups in France
    - Success
- Later 1990s = Eureka - using laptops in all France and Canada
    - Failure
- Late 1990s - 2000 = Eureka II - web portal
    - Failure?

# Some Lessons from Xerox

- Photocopier machine repairers spent most of their time in the field (i.e. they were mobile teleworkers) but they met regularly to socialize and tell "war stories" about difficult copier repair problems.

# Some Lessons from Xerox

- These meetings were:
  - Part of the process of becoming a member of a professional community (socialization)
  - An opportunity to share experiences and gain new knowledge (knowledge transfer)
- How would this process work in a wholly distributed (virtual) setting?

# Some Lessons from Xerox

- Membership is not a function of the amount of knowledge an individual has, or their rank in a formal hierarchy, but is related to their social status in a group.
  - How can you participate if you are alone in a car? How do you establish your own status or ascertain the status of others? Who do you call? If you do call somebody, what do you talk about when you don't know the person you are talking to?

# Some Lessons from Xerox

- Building and maintaining a sense of belonging and community among teleworkers is difficult and can often solved only by arranging regular face-to-face meetings.

# Some Lessons from Xerox

- New knowledge and skills are often gained through watching others work and by discussing your work with others.
  - When work becomes wholly distributed, "watching" can become remote and disembodied and "discussion" can become limited to factual exchange. The nature of the "real work" becomes lost or hidden in formal discourse.

# Some Lessons from Xerox

- Exchanging experience and gaining new knowledge is more than the exchange of data or documents.  Even when data or documents are available, a social or organizational context is often required for it to make any sense.

# Some Lessons from IBM

- See Understanding the Benefits and Impact of Communities of Practice
  - Michael A. Fontaine, IBM Institute for Knowledge-based Organizations, USA
  - David R. Millen, IBM Research Collaborative User Experience Group, USA
  - Chapter 1, Knowledge Networks: Innovation through Communities of Practice

# Some Lessons from IBM

- Awareness:
  - Making seekers and sources aware of their respective knowledge
- Access:
  - Providing the time and space for seekers and sources to connect with one another

# Some Lessons from IBM

- Application:
  - Ensuring that the knowledge seeker and source have a common understanding necessary to share their insights
- Perception:
  - Creating an atmosphere where knowledge sharing between seekers and sources is respected and valued

# Awareness

- Finding "the expert" on a topic is often a difficult, if not impossible task
  - The programmer who did not know of other programmers with the same interest who worked in different locations
  - The programmer had little awareness of others in his organization might benefit from his solution

# Awareness

- CoPs can help people become aware of the knowledge and skills of others by creating a place (either physical or virtual) where individuals can meet
- CoPs can be particularly useful for individuals who are new to the organization or who have been joined as the result of a merger or acquisition

# Access

- Because of pressures of work it is often difficult to get people to engage in a knowledge sharing
  - People who already spend a significant amount of effort on their own may have limited incentive to assist a newcomer
  - The average American worker receives over 200 e-mails per day and spends 47 minutes per day managing e-mail

# Access

- CoPs can be seen as a way of making personal connections with more experienced people in the organization and break down hierarchal boundaries
- In addition CoPs can also help to spread the load among several old-timers

# Application

- There is often difficulty ensuring that the knowledge is understood and applied properly
  - Often people do not have the time, attention or experience to truly understand how the original idea worked

# Application

- CoPs can help facilitate the transfer of knowledge across firms by fostering regular dialogues between practitioners on day-to-day business challenges

# Perception

- Often, the pressure to "know all the answers" makes it difficult to ask for help - especially from more experienced professionals
  - Macho management?

# Perception

- CoPs can help address a number of issues regarding how individuals are perceived for their knowledge sharing efforts
- Communities can also hold events that can publicly recognize individual knowledge contributions

# Overcoming the Barriers

- In large, distributed organizations, enabling knowledge seekers and knowledge sources to share knowledge is often a significant challenge

- This chapter offers five general guidelines can be applied in an organization to help overcome this problem

# Overcoming the Barriers

- (1) Provide a central place where individuals new to the organization or discipline can quickly find others
  - Provide time or "virtual spaces" where people can meet

# Overcoming the Barriers

- (2) Maintain directory of community participants, key skills and interests
  - Collaborative environments such as IBM's QuickPlaceTM or eRoom'sTM virtual workspace provide online directories

# Overcoming the Barriers

- (3) Evaluate submissions to a repository to ensure that the explicit knowledge base is current and contains relevant material for practitioners
  - A large US auto manufacturer requires that all submissions be routed to the appropriate community leaders in each of their assembly plants

# Overcoming the Barriers

- (4) Foster an environment where practitioners feel comfortable to test ideas without fear of ridicule or misappropriation

  – A pharmaceutical firm created a community to share knowledge about a particular new method for investigating chemical compounds

# Overcoming the Barriers

- (5) Use communication and recognition to increase the visibility of member contributions
  - Some organizations recognize and broadcast achievements of the whole community, while others single out key players for their accomplishments through "peer nomination" awards or "knowledge in action awards"

# Virtual Organizations

# Virtual Organizations

- "Virtual organizations represent a task and competence oriented approach in the design of an organization".
  - "A network of individuals coupled together by advanced communications technologies".
  - "An aggregation of individuals or business partners who interact around a shared interest, where the interaction is at least partially supported and/or mediated by technology".

# Virtual Organizations

- Enabled by technology
  - Internet
  - Intranet
  - E-mail
  - Telecommuting
  - Inter-organizational networks
  - Social networking and portal sites
  - etc

# Virtual Organizations

- Virtual organizations are like any other organization except that the social fabric of the organization can be spread between sites, organizations or even continents.
  - Virtual organizations ‘exist’ in virtual space.
  - Virtual organizations are a social reality without physical reality.

# Virtual Organizations

- Virtual organizations are:
  - Composed of temporary structures, strategic alliances and joint ventures
  - Eliminate traditional chain of command with flat hierarchies and networks
  - Replace departments with cross-functional teams
  - Incorporate customers and suppliers within the organization

# Virtual Organizations

- The virtual organization may consist of many different sub-organizations.
- The different parts of the organization may be in different physical locations.
- Computer networks and communications technology are used to connect various groups together to work on projects.

# Types of Virtual Organization

- Within the broad definition, the term is often qualified in some way:
  - Internal virtual organization
  - Stable virtual organization
  - Dynamic virtual organization
  - Web-based organization
  - etc

# Internal Virtual Organization

- Oriented to working of professionals in teams using CSCW tools
- Organizations redesigned from existing structure into units of autonomous groups / teams
- Multidisciplinary teams for concurrent engineering (adapt design to production)

# Stable Virtual Organization

- Organization outsources non-core processes to a small number of suppliers
  - Cooperative relations with suppliers are close
  - Goal is usually cost cutting
  - Systems and processes are harmonized

# Dynamic Virtual Organization

- Large scale cooperation with other organizations across a range of activities
  - Relations with third parties can be opportunistic and temporary
  - Cooperation occurs depending on opportunities in the market
  - Relations are volatile and offer much flexibility

# Web-based Virtual Organization

- A (temporary) organization is established via the internet to create of a network of specialists to offer a products and service (worldwide)
  - Relations are contractual
  - Knowledge sharing and management of information between partners is essential

# Explanations Offered

- Technology
  - IT / IS offers new opportunities
- Downsizing
  - Managers need to increase span of control
- Globalization
  - Companies span national boundaries
- Outsourcing
  - Functions span organizational boundaries
- Teleworking
  - Companies and/or functions span geographical and temporal boundaries

# Virtual Organizations

- Disadvantages
  - Results in more complex organizational structure
  - Problems of management and co-ordination
  - Political and authority problems
  - Difficult to define boundaries resulting in security risks to the firm
  - Dissolution of organizational culture and sense of community
  - Reduce commitment and motivation levels
- Advantages
  - Location independent organizations
  - Sharing of resources is more open, accurate and timely
  - Changing the time and spatial dimensions of performance
  - Rapid response to changing conditions
  - Integration and effective utilization of diverse cultures, people and talents
  - Higher levels of innovation

# "Green" Benefits

- Reduced travel, reduced $CO_2$ and reduced environmental impact
- Reduced reliance on physical facilities and the need for office space in cities
- Helps employees meet familial obligations e.g. children or aging parents
- More effective utilization of resources / reduced waste

# Additional Reading

- Two articles
  - From Harvard business review
  - Relate to the inter-organizational use of IS / IT
  - Relevant, practical and easy to read
  - Available on-line

- See web page for detail of how to get access and a summary of the articles