Organisational behavior and IS

The IT Culture

- important aspects include
  - concepts of the world and its problems
  - “everything looks like a nail to the man with a hammer”
  - professional beliefs
  - professional methodologies
  - technical (insider) jargon
  - professional standing and reputation
  - a faith in technical “solutions”

The IT Credibility Equation

- the IT culture and the failure of IT units to integrate with the rest of their organizations has been widely seen as a problem
- IT staff have been portrayed as indifferent to people issues and unconcerned with the effects of the systems they build
- on this basis, IT managers have a “credibility equation” to manage
  - the IT area is often simply not trusted

Dealing with the problem

- many leading IT theorists have argued that the major problem is a lack of understanding of technology and its impacts among business managers and staff
- their recommended solution is better education for managers
- is this appropriate?

Organisational Politics

- the art or science of government
- activities associated with the exercise of power/influence
- war is “the continuation of politics by other means” (Clausewitz)
- reaching a balance, based on the evaluation and resolution of competing priorities

Organizational Politics (ctd)

- organizational politics is about who gets to call the shots at the managerial level
- it is allied with the pursuit and application of power
- there is a widespread perception that IT professionals are politics-averse
  - they resent “wheeling and dealing”
  - they see politics as the art of the pragmatic rather than as leading to “best” solutions
  - politics can lead to irrational or unwarranted outcomes
Organizational Politics (ctd)

- viewed positively, playing politics is about resolving the problems which arise from differences in
  - perspective
  - values
  - attitudes

Organisational Political Activities

- negotiation
- influence exercising/influence peddling/lobbying
- back-room deals
- coalition-building
- managing the meeting
  - “I’ll ask Jack to comment on this”

Information Technology and Organizational Politics

- the transforming capacity of IT has been such as to place the IT professional above politics to a large extent
- the ability to understand and apply the technology has provided a natural power base - therefore there has been no real need to “play politics” in the past
- the reality is that IT decisions inevitably have political aspects to them, some of which may be foreseen, but some which will be unforeseen
  - changes to the existing balance of power
  - new power bases & disable others
  - can be seen to be strengthening the IT power base at the expense of other organisational units

Change

- a number of factors can create resistance to change
  - fear
  - uncertainty
  - conservatism
  - existing comfort level
  - loss of skill base
  - outsourcing has been described as “the revenge of the business manager”
- a political approach may be the only way to succeed in implementing technology-based change

Aversion to Politics

- an aversion to organizational politics is counter-productive for IT managers and professional staff
- they must participate in organizational politics if they wish to exercise significant influence on directions
- changes in recent years have reduced the power of IT areas
  - outsourcing
  - increased IT-literacy among business managers and staff
  - the scarcity of examples of IT-enabled successes
  - internet-commerce initiatives have often been pushed by business units (making IT staff the reactionaries)

IT Management - the key elements

- Strategic management practices and objectives: business strategies, IT strategies, IT directions
- Information Systems (TPS)
- Information Technology Infrastructure
- IT Skills & Expertise
- Standard management practices and objectives: costs, benefits, productivity, specific targets
Information Systems in Organizations

- **transaction processing systems**
  - corporate databases
- **functional information systems**
  - see Porter’s Value Chain model: production/operation, marketing, human resources, accounting, finance

Transaction Processing Systems (TPS)

- their significance is often missed against the “glitter” of more spectacular activities
- TPS are still organizationally critical and are less understood than they used to be
  - their operations account for 60%+ of the IT budget in most organizations
  - TPS handle the basic processes required for the capture, validation, and storage of most corporate data
  - an effective TPS structure is critical to new initiatives such as internet-commerce
  - replacement strategies are very poorly dealt with in the literature - introduction of a new TPS requires a major commitment

TPS - Characteristics

- high volume
- optimized for accuracy and throughput
- deal with standard (routinized) processes
- reliable
- “manage” the contents of large databases
- run continuously (throughout the normal hours of business and often 24 hours a day)

TPS - Organizational Positives

- TPS
  - are organizational “workhorses” - they handle standardized routine processes
  - are the result of significant organizational investments of time and money
  - save hiring large numbers of staff
  - are (usually) extremely reliable and efficient
  - manage the vast bulk of organizations’ business data
  - help define the organization’s image

TPS - Organizational Negatives

- TPS
  - may no longer solve the “right” problem (the legacy systems issue)
  - if “standalone”, can inhibit organizations from being flexible and innovative
  - are where problems (eg, GST) will be most difficult to solve
  - are usually poorly documented and understood
  - are difficult and expensive to replace
  - help define the organization’s image
  - may run on old technology
  - may have been developed in an old programming language

“Legacy” Systems

- the legacy systems concept was introduced to refer specifically to outdated TPS
  - but virtually every TPS is at least a little out of date from the moment it is installed, so there is a need for balance
Functional Information Systems

- inventory management
  - corporate databases
- quality control
  - information about quality of incoming raw materials; semi-finished and finished products
- Material requirements planning
  - information about quality of incoming raw materials; semi-finished and finished products

Functional Information Systems ctd.

- Front-end (Customer Interface) Systems
  - these are important because?
  - it’s easiest to answer this by contrasting an effective system with some common negative comments (and experiences)
    - “I’m sorry, the system won’t let me do that”
    - “I’m sorry, you don’t appear to be registered”
  - some of these responses may be due to “back-end” problems as we shall see later in the course, but some are because of front-end inadequacies

MIS/DSS/EIS/Data Warehouses

- these systems are important but are almost never mission critical
- this is because they are usually not fundamental to operations
  - the organization can continue to function quite adequately without them
  - substitute processes (sometimes manual) are usually able to be activated
  - quite often it is possible to wait for the problems to be fixed
- their organizational implications are to be discussed in a later lecture

Outsourcing and TPS

- many of the most difficult outsourcing issues revolve around TPS
  - maintenance
  - enhancements
  - support
  - replacement

ERP and TPS

- the ERP industry likewise revolves around TPS
  - an ERP package replaces existing TPS
  - ERP packages are effective because they provide highly reliable “vanilla” solutions to standard business process problems

Porter’s Value Chain Model

- Accounting, Finance, Management Support
- Human Resource Management
- Technology Development/Product Development
- Procurement
- Information Technology
- Inbound Logistics
- Operations
- Outbound Logistics
- Sales and Marketing
- Service
- Profit
The Value Chain Model

- The "value chain" model is important in IT management because
  - an organization’s aim is to add value at each point in the chain and with each support function
  - information is created by activities in all parts of the model
  - the application of IT is therefore critical throughout the model
  - the information generated can facilitate the smooth running of the organization
  - the better information is managed the more efficient the organization
  - the information generated (and the processes used) may be a source of competitive advantage

Information Systems Integration

- A key question in IS is that of "integrated systems"
- An integrated systems structure works off
  - standard data structures
  - standard data definitions
  - standard process definitions
  - standard business rules

IS Integration and the Outside World

- Integration is of increasing importance because of its implications for dealing with the outside world
  - Customers
    > personal and corporate, electronic, international
  - Suppliers
  - Staff
  - Government
- Integrated systems facilitate all these interactions

Integrated Systems

- Systems integration facilitates
  - Effective CAM (customer asset management)
  - Effective SCM (supply chain management)
  - Effective sales-based marketing campaigns
  - Innovative "fly-buys" concepts
  - Effective internet-commerce applications

CRM and its Support by IT

- Customer relationship management (CRM): An enterprise wide effort to acquire and retain customers, often supported by IT.

Type of CRM

- Operational CRM: activities involving customer services, order management, invoice/billing and sale/marketing automation and management.
- Analytical CRM: activities that capture, store, extract, process, interpret, and report customer data a corporate user.
- Collaboration CRM: deals with all the necessary communication coordination and collaboration between vendors and customers.
Supply Chain & Value Chain Definitions

SUPPLY CHAIN
flow of materials, information, payments, and services from raw material suppliers, through factories and warehouses, to the end customers.

SUPPLY CHAIN MANAGEMENT (SCM)
to plan, organize, and coordinate all the supply chain’s activities.

Benefits of SCM

Reduces uncertainty & risks in the supply chain.
This positively affects inventory levels, cycle time, business processes & customer service.
Contributes to overall increase in profitability & competitive advantage.

Components of Supply Chain

The Supply Chain

- Involves the life of a product from ‘dirt to dust’.
- Involves movement of tangible & intangible inputs.
- Can come in all shapes and sizes and may be fairly complex.
- Can be bi-directional and involve the return of products (reverse logistics)
- The flow of goods, services, information & financial resources must be followed with an increase in value.

Sources of Supply Chain Problems

- UNCERTAINTY
  - In demand forecast
  - In delivery times & production delays

- POOR COORDINATION
  - With internal units and business partners
  - Ineffective customer service
  - High inventory costs, loss of revenue & extra cost for expediting services.

Solutions to Supply Chain Problems

- Better systems
  - IT
  - Information sharing
    - Sharing information along the supply chain can improve demand forecasts. Such sharing can be facilitated by EDI, extranets, and groupware technologies
  - Vertical Integration
    - Purchasing & managing the supply source.
  - Building Inventories
    - “Insurance” against supply chain shortages.
    - Main problem: It is difficult to correctly determine inventory level for each product & part. This can be costly.
An Exercise in Systems Integration: the "Customer" Data Entity

- functions
  - sales
  - invoicing
  - after-sales support
  - marketing
- what is required for a stable definition of customer to be adopted throughout the organization?

Benefits of Systems Integration

- standardized work practices/processes
  - simplified training requirements
  - easier introduction of new staff to the organization
  - interchangeable staff
  - standard customer interface
  - simplified management processes
  - simplified change management
  - reduced system redundancy
  - economies of scale
References

- Turban, Leidner, McLean & Wetherbe. Chapter 6
- Turban, Rainer, Potter: Introduction to Information Technology. Chapter 8