Lecture 2 - Outcomes

- Ability to describe the dimensions of organisation structure.
- Understand the criteria for organisational effectiveness.
- Turbulent environments and IS/IT
- Why manage IT and IT units

Organisational Issues in IT – IACT 916

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Structure & Effectiveness

Do it tonight
Do it tomorrow
Do it later

Determinants of Organisational Structure
- Strategy
- Organisation size
- Technology
- Environment
- Power-control

Applications:
- Managing the environment
- Managing organisational change
- Managing organisational culture
- Managing organisational evolution
- Managing gender

Organisational Structure

Organisational Effectiveness

Organisational Designs:
- Design options
- Bureaucracy
- Adhocracy

Outline

- Dimensions of Organisational Structure
  - Complexity
  - Formalisation
  - Centralisation
- Organisational Effectiveness
  - The goal-attainment approach
  - The systems approach
  - The strategic-constituencies approach
  - The competing-values approach
1 Dimensions of Organisation

Structure

- Complexity, differentiation
- Formalisation, range
- Centralisation, decision-making

Useful headings for the assignment

Structure and Complexity

- Complexity refers to the degree of differentiation that exists within an organisation.
- Horizontal differentiation
  - Degree of horizontal separation between units
- Vertical differentiation
  - The depth of organisational hierarchy
- Spatial differentiation
  - The degree to which an organisation’s facilities are geographically dispersed.

More on complexity…

- Specialisation
  - Functional
  - Division of labour
  - Social Specialisation
  - Departmentation

- To what extent are functions really separate
- Can functions be located within business units, especially IT function

- Span of Control - how much influence a manager or group has
  - Over their own unit
  - Up and down the hierarchy
  - Over other units/functions

- Too little or too much may inhibit efficiency

- As complexity increases so does the demand for management to ensure that differentiated and dispersed activities are working smoothly and together towards OE
  - If functions overlap, how are they coordinated
  - NDim design tool
Structure and Formalisation

- Formalisation refers to the degree to which jobs within the organisation are standardised.
  - Does it have to be in writing? It’s not in my job description
- Range of formalisation
  - Formalisation varies widely, depending on the organisation
- Why formalisation is important?
  - Ability to regulate employees’ behaviour leads to benefits
  - May also have an inhibitory effect on initiative and other factors affecting effectiveness

Formalisation and Socialisation

- Socialisation refers to an adaptation process by which individuals learn the values, norms and expected behaviour patterns for the job and the organisation they belong to.
- Closely related to organisational culture
  - Collegial versus individualist
  - Innovative versus conservative
  - Consensus versus authoritative

Formalisation Techniques

- Selection-
  - Organisations do not choose employees at random
- Role requirements
  - Individuals in organisation fulfill roles
- Rules, procedures and policies
  - Rules are explicit statements.
  - Procedures are a series of interrelated sequential steps that employees follow
  - Policies are guidelines that set constraints on decisions that employees make
- Training: may affect skills but also practice and attitudes
- Rituals: Monday morning coffee, Friday afternoon drinks

Structure and Centralisation

- Most problematic of three dimensions
- Notion of decentralisation is important
  - Can be functional or geographic
  - Increases number of power players but reduces span of control of each
  - Do we look at only formal authority? Informal allegiances can override formal structures
  - Policies can override decentralisation - spider web
  - Consider structure (models) and decisions
Decision-making and centralisation
- Need to define level of responsibility for Unit/Area managers?
- Can Units/Areas define their own structures/policies?

Importance of centralisation
- Effective if organisation is out of control or suffers loss of focus
- Can often suffocate or allow employees to work

Inter-relationships
- Complexity and formalisation: positive, linear
- Centralisation and complexity: negative?
- Centralisation and formalisation: positive?
- Complexity, formalisation and centralisation

Some dimensions of Organisation Structure
- Do Complexity
  Formalisation
  Centralisation
- Affect effectiveness? If so how?
- What role can IT play to manage these?

Organisational Effectiveness
- Criteria for effectiveness
- 4 Approaches
  - goal-attainment approach
  - systems approach
  - strategic-constituencies approach
  - competing-values approach
Organisational Effectiveness Criteria

1. Overall effectiveness
2. Productivity
3. Efficiency
4. Profit
5. Quality
6. Safety
7. Growth
8. Time
9. Turnover
10. Job satisfaction
11. Morale
12. Control
13. Conflicts/Conflict
14. Flexibility/adaptation
15. Planning and goal setting
16. Goal commitment
17. Introduction of organisational goals
18. Role and status congruence
19. Managerial interpersonal skills
20. Managerial task skills
21. Information management and communication
22. Readiness
23. Utilisation of environment
24. Value of human resources
25. Acquiescence and shared influence
26. Training and development emphasis
27. Achievement emphasis

Approach 1: goal-attainment

- OE must be measured in terms of the accomplishment of ends rather than means.
- It is the bottom line that counts.
- How do we know if we have attained a goal? Criteria might include:
  - profit-maximisation,
  - making the enemy surrender,
  - winning the game.

Approach 2: systems approach

- An organisation should be judged on its ability to acquire inputs, process them, channel the outputs, and maintain stability and balance.
- System models emphasise criteria that will increase the long-term survival of the organisation, such as the ability to:
  - acquire resources
  - maintain itself internally as a social organisation
  - and to interact with its external environment.

Measuring Effectiveness in different types of organisations

<table>
<thead>
<tr>
<th></th>
<th>Business Firm</th>
<th>Hospital</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on investment</td>
<td>Total number of patients treated</td>
<td>Number of faculty publications</td>
<td></td>
</tr>
<tr>
<td>Inventory turnover</td>
<td>Capital investment in medical equipment</td>
<td>Cost of information systems</td>
<td></td>
</tr>
<tr>
<td>Sales volume</td>
<td>Total number of patients treated</td>
<td>Number of students graduated</td>
<td></td>
</tr>
<tr>
<td>Change in working capital</td>
<td>Change in the number of patients treated</td>
<td>Change in student enrolment</td>
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</table>
Approach 3: strategic-constituencies

- An effective organisation is one that satisfies the demands of those constituencies in its environment from which it requires support for its continued existence.
- Like systems approach, but strategic-constituencies is not concerned with the organisation’s environment.
- Only concerned with those players in the environment who threaten its existence.

Approach 4: competing-values approach

- The main idea in this approach is that the criteria you value and use in assessing an organisation’s effectiveness: e.g. return on investment (ROI), market share, new-product innovation, job security
- depend on who you are & the interests you represent.
- Different groups in the company, e.g. executives, marketing department, workers
- view and evaluate the organisation in different ways

OE criteria of selected strategic constituencies

<table>
<thead>
<tr>
<th>Constituency</th>
<th>Typical OE Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owners</td>
<td>Return on investment; growth in earnings</td>
</tr>
<tr>
<td>Employees</td>
<td>Pay; Fringe benefits; satisfaction with working conditions</td>
</tr>
<tr>
<td>Customers</td>
<td>Satisfaction with price; quality; service</td>
</tr>
<tr>
<td>Suppliers</td>
<td>Satisfaction with payments; future sales potential</td>
</tr>
<tr>
<td>Creditors</td>
<td>Ability to pay debts</td>
</tr>
<tr>
<td>Unions</td>
<td>Unions competitive wages and benefits; satisfactory working conditions; willingness to bargain fairly</td>
</tr>
<tr>
<td>Local community officials</td>
<td>Involvement of organisation’s members in local affairs; lack of damage to the community’s environment</td>
</tr>
<tr>
<td>Government Agencies</td>
<td>Compliance with laws; avoidance of penalties and reprimands.</td>
</tr>
</tbody>
</table>

Comparing the 4 Approaches to OE

<table>
<thead>
<tr>
<th>Approach</th>
<th>Definition</th>
<th>When Useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal-attainment</td>
<td>It accomplishes its stated goals</td>
<td>Goals are clear, time-bound and measurable</td>
</tr>
<tr>
<td>Systems approach</td>
<td>It acquires needed resources</td>
<td>A clear connection exists between inputs and outputs</td>
</tr>
<tr>
<td>Strategic-constituencies</td>
<td>All constituencies are at least minimally satisfied</td>
<td>Constituencies have a powerful influence on the organisation and the organisation must respond to demands</td>
</tr>
<tr>
<td>Competing values</td>
<td>The emphasis of the organisation in all three dimensions balances constituent preferences</td>
<td>The organisation is unclear about its own emphases, or changes in criteria over time are of interest</td>
</tr>
</tbody>
</table>
A turbulent environment is one in which changes occur quickly and apparently beyond the control of an organisation.

Turbulent environments drive organisations to use IT:
- To increase their “organic” character
  - recombinant business models,
  - recombinant IT architectures,
  - farming out of operations as separate companies
- To leverage core competencies by supporting linkages with external organisations
- To reduce environmental complexity by seeking complex relationships with external companies

Increasingly turbulent environments feed the need for further and greater advances in IT
- Which further increase turbulence
- In the new and turbulent world of empowered customers and larger, more aggressive competitors, it seems that IT is of critical importance.
- How should the IT function be managed i.e. how do we deal with the organisational issues inside IT?
- First, what is the context in which we “manage”
Large organisations are regionalising their IT resources, and using them as service cost centres. Service tasks vary and may include:
- Requirements Analysis
- Maintenance Programming
- Customer support
- Infrastructure support
- Project Management (medium/minor)

98 – 2002 Design and Development fell into two distinct areas:
- Web Development meant a green field approach, with a random, sometimes lethal mix of technologies
- Core Systems Development meant well-traveled, structured, seasoned. Often the product had been iterated over a 1-3 year period
These days, the Web (browser) interface is commercially stable, and is implemented in both Internet and Intranet environments.

Design and construction of both Web and core systems applications has moved offshore, and is purchased using the ‘fee for service’, or ‘fee for transaction’ model.

Large projects are no longer/rarely directly undertaken by large scale organisations.

These projects are outsourced using Expression Of Interest (EOI) or Request For Tender (RFT) or request for Proposal (RFP)

In this way, the Client organisation can schedule costs, set deliverable schedules but relinquish ownership. Enter the Application Service Provider - ASP

They never create systems on time and in budget.

Applications developed do not meet our needs.

We can’t get a system changed or get a new report.

Systems are highly inflexible

The computer is never up.

Response time is very slow

Long lead times for new systems

There are many errors in the database.

Our reports are always late.

Costs for IT is going up but the service gets worse

I don’t feel we are getting a good ROI on IT.

I think IT is out of control

I get more complaints about IT than about any other area of the company.

We just can’t get good management in IT

I don’t 'like the manager of IT; there is no way he could become a vice president or CIO
The Cost of Information.

- Estimates on the cost of acquiring, processing, storing, and transmitting information vary wildly. The American Electronics Association calculated that 1994's global market for IT hardware, software, and services was US$643 billion.
- The European IT Observatory figure was nearly 40% higher - US$891 billion.


The Challenges of IS Management

- Lucas (1990)
- Supporting the organisation’s strategy
- Meeting the demand for computer power and smooth operations
- Dealing with aging information systems
- Reducing the backlog of applications
- Supporting end users
- Managing IS personnel to reduce turnover and enhance skills
- Developing a vision of the role & contribution of IT to the organisation
- Defining an overall hardware and software architecture including micros, minis, mainframes and communications
- Coordinating processing decisions across the organisation
- Changing role of IS
- Loss of power and control by IT managers because of the distribution of hardware and the availability of high quality of the shelf software
- IT departments often lose control of systems development.

Many software projects

- cost more than was expected – they “go over budget”
- take longer to complete – they “go over schedule”
- Do not deliver all the functions that were expected

One example

In 1989, the Dept. of Health & Rehabilitative services (HRS) began to build an automated welfare system:

Florida Online Recipient Integrated Data Access (FLORIDA)

- The system processes the eligibility of several million recipients of “Aid to Families”, food stamps and Medicaid
- In line with federal policy, the system was based on a centralised system used to support two counties in Ohio
- Unfortunately, FLORIDA was intended to be a large distributed system, using 84 databases, 1390 programs, 12,000 terminals and PCs and processing 5.5 million transactions a day
The results
- The system was still not complete in 1998, 5 years late.
- The system made overpayments of $260,000,000.
- Withheld payments of $58,000,000 from eligible recipients
- Did not process enough food stamps – one homeless man walked 12 miles back and forth, three times a week to be told that there were no food stamps available
- HRS staff resigned en masse
- FLORIDA issued Medicaid cards to some 235,000 people who were not eligible. These cards were used to improperly claim $28,000,000 in medical services

The Leadership gap on key issues

<table>
<thead>
<tr>
<th>Business/strategy issues</th>
<th>Imp.</th>
<th>Eff.</th>
<th>Gap</th>
</tr>
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<tbody>
<tr>
<td>Getting managers to use IT to shape business process</td>
<td>88</td>
<td>30</td>
<td>58</td>
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<tr>
<td>Integrating IT into corporation strategy</td>
<td>82</td>
<td>34</td>
<td>48</td>
</tr>
<tr>
<td>Developing a corporate wide strategy</td>
<td>79</td>
<td>28</td>
<td>51</td>
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<tr>
<td>Human resource issues</td>
<td></td>
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<tr>
<td>Training/educating workforce in the use of IT</td>
<td>87</td>
<td>34</td>
<td>53</td>
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<tr>
<td>Managing and mastering change</td>
<td>81</td>
<td>38</td>
<td>43</td>
</tr>
<tr>
<td>Training/educating IS staff about the business</td>
<td>76</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>Defining role &amp; structure of IS in organisation</td>
<td>69</td>
<td>36</td>
<td>33</td>
</tr>
<tr>
<td>Technology issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing ability to respond to business changes</td>
<td>76</td>
<td>24</td>
<td>52</td>
</tr>
<tr>
<td>Improving application development productivity</td>
<td>73</td>
<td>23</td>
<td>50</td>
</tr>
<tr>
<td>Defining an architecture to integrate IS within organisation</td>
<td>69</td>
<td>33</td>
<td>36</td>
</tr>
<tr>
<td>Integrating systems across organisation</td>
<td>57</td>
<td>21</td>
<td>36</td>
</tr>
</tbody>
</table>

Imp. - importance of issue   Eff. – Effectiveness with which it is dealt

Critical areas for IT managers
1. Strategic and competitive issues
   1. Develop IT strategies supporting firm’s strategic goals
   2. Use technology to gain advantage for the firm
   3. Educate management about IT opportunities/problems
   4. Ensure realism in long term expectations
2. Planning and implementation concerns
   1. Develop plans in support of firm’s goals
   2. Communicate about plans and changes to them
   3. Make IT staff and their clients partners during planning and implementation
   4. Be realistic about medium term expectations

3. Operational items
   1. Provide reliable and available customer service
   2. Deliver service on time and on budget
   3. Respond to emergencies and one-off requests
   4. Manage IT so that it aligns with operational expectations
4. Business issues
   1. Improve productivity of IT organisation
   2. Attract and retain highly skilled staff
   3. Practice good people management skills
   4. Operate IT within company norms
   5. Position IT function to provide technical and business leadership to the firm