FIT2090
BUSINESS INFORMATION SYSTEMS AND PROCESSES

Lecture 10 IS Outsourcing

CLAYTON, FACULTY OF INFORMATION TECHNOLOGY
MONASH UNIVERSITY

Reference : FIT9123 Introduction to Business Information Systems

Objectives

On completion of this lecture, you will be able to:

- discuss the reasons for which many organisations outsource (full/partial) their IT function
- discuss the differences between various types of IT outsourcing practices
- discuss the risks associated with IT outsourcing
- discuss the control and governance of IS

What is sourcing? Types of sourcing

- Sourcing
  – represents a governance mechanism
  – is a process finding suppliers (source) for materials
- For IT context:

  \- sourcing refers to a process that involves deciding the sources (internal IT department, external vendors, or mixed) that would satisfy the IT requirements of an organisation
- Sourcing can occur in **two** ways: Insourcing and Outsourcing
- Insourcing
  – refers to the governance mechanism in which IT function is maintained and developed in-house
- Outsourcing
  – involves a process of subcontracting IT function (part or full) to a third-party (local or overseas)

What is IT outsourcing?

- The **central themes** of these definitions are:
  - More than one party is involved
  - One party receives IT services (called client, user organisation, customer)
  - Another party offers IT services (called vendor, contractor, external organisation, provider) who can be:
    - onshore or offshore
  - Acquiring services/goods from the external organisations (often governed by a legal contract)
  - A transfer of IT function, asset (h/w,s/w, network), control (decision rights) and even staff is involved to some degree

Outsourcing projects

- **Insourcing (in-house development)**
  uses the professional expertise within an organisation to develop and maintain its information technology systems

- **Outsourcing** an arrangement by which one organisation provides a service or services for another organisation that chooses not to perform them in-house

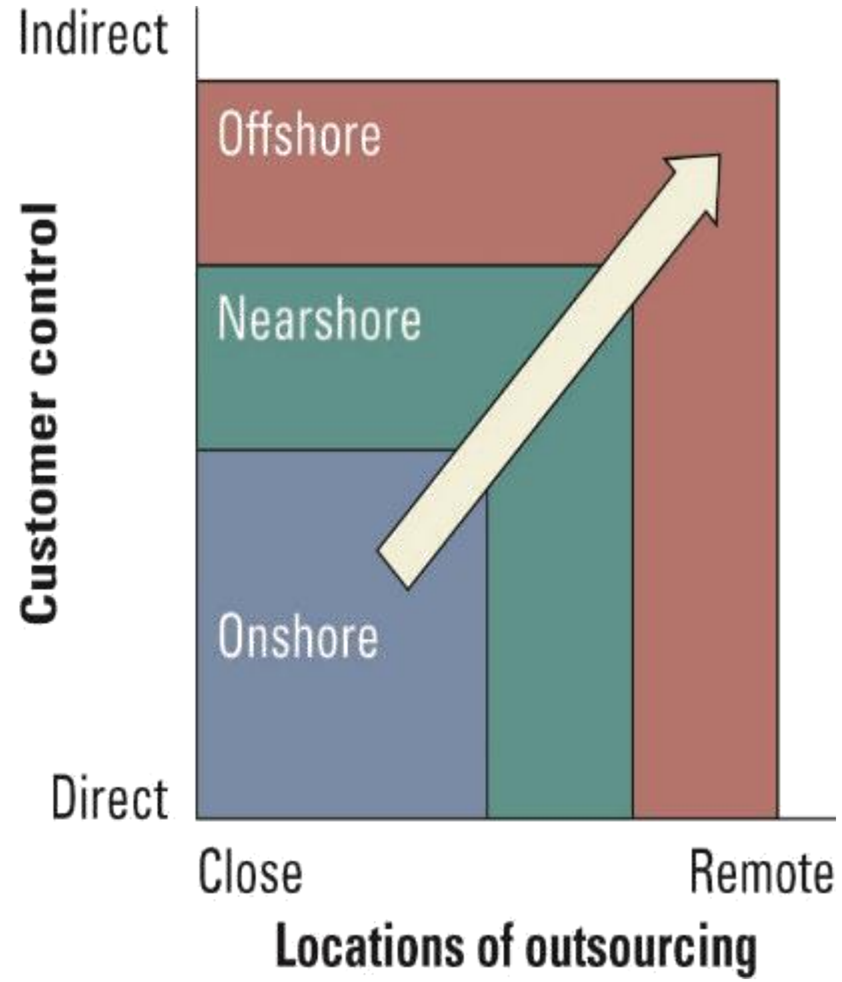
Outsourcing projects *continued*

Factors driving outsourcing growth

- Core competencies
- Financial savings
- Rapid growth
- The internet and globalisation

Outsourcing projects *continued*

- **Onshore outsourcing**
- **Nearshore outsourcing**
- **Offshore outsourcing**



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Outsourcing challenges

- Length of contract
  - Difficulties in getting out of a contract
  - Problems in foreseeing future needs
  - Problems in reforming an internal IT department after the contract is finished
- Threat to competitive advantage
- Loss of confidentiality
- The Myki Case Study

Insourcing/Outsourcing: Onshore Vs offshore

- Both insourcing and outsourcing can occur:
  - onshore
  - offshore
- Depending on this, four possible scenarios (as shown in the diagram) can be observed
- **Offshore insourcing**
  - Occurs between a parent company and its subsidiaries located in a foreign country (e.g. MicroSoft, Intel have established their R&D in India)
- **Offshore outsourcing**
  - Occurs when a company's IT needs are supported by external IT vendors located in a foreign country (e.g. India)
- **Onshore outsourcing**
  - Occurs between a company and external IT vendors located in the same country

	Onshore	Offshore
Client company	Onshore insourcing (Internal IT Department)	Offshore insourcing
External IT vendor	Onshore outsourcing	Offshore outsourcing

Outsourcing: Contracts

Contract length

- Short-term (3 to 5 years)
- Long term (10 years)

An outsourcing contract must describe:

- The services that a vendor is to provide
- How the service delivery is to be measured
- Penalties for non-performance
  - discusses financial arrangement;
  - Indicates legal issues
    - Intellectual property
    - Privacy issues such as data protection, identity fraud

Reasons for IT Outsourcing

- *Financial*
  - reduce costs
  - improve efficiency, competitive advantage
- *Strategic*
  - able to focus more on core business activities (e.g. pharmaceutical company)
  - able to deliver improved services/products
- *Technical*
  - access the latest technologies which clients do not have access/ expertise(e.g. SMEs)
  - avoid technological obsolescence

Theoretical foundation of outsourcing

- Theory of core competencies
- Transaction Cost Economics (TCE)
  - explains decision based on an economic rationale
- Political model
  - it focuses on power and politics in organisations and ignores economic rationale
- Resource based theory
- The Agency theory
  - goals and risks sharing between clients and vendors

Review Key Article

Cheon, M. J. , Grover, V. and Teng, J.Tc.C. (1995) "Theoretical perspectives on the outsourcing of information systems" Journal of IT, 10, pp.209-219

Theory of Core Competencies

- Competency refers to organisational capability to deploy resources that attract value
- Characteristics of core competencies
  - Core competency provides consumer benefits
  - Core competency is not easy for competitors to imitate
  - Core competency can be leveraged widely to many products
- Figure shows that:
  - Canon has a set of three core competencies
  - Products developed by Canon use one or more of these competencies

Core Competencies at Canon

	Precision Mechanics	Fine Optics	Micro-electronics
Basic camera	■	□	
Compact fashion camera	■	□	
Electronic camera	■	□	
EOS autofocus camera	■	□	■
Video still camera	■	□	■
Laser beam printer	■	□	■
Color video printer	■		■
Bubble jet printer	■		■
Basic fax	■		■
Laser fax	■		■
Calculator			■
Plain paper copier	■	□	■
Battery PPC	■	□	■
Color copier	■	□	■
Laser copier	■	□	■
Color laser copier	■	□	■
NAVI	■	□	■
Still video system	■	□	■
Laser imager	■	□	■
Cell analyzer	■	□	■
Mask aligners	■		■
Stepper aligners	■		■
Excimer laser aligners	■	□	■

Every Canon product is the result of at least one core competency.

Theory of Core Competencies

- This theory suggests that:
  - keep core competencies in-house
  - Activities requires non-core competencies can be outsourced
- When IT is considered to be a core competence:
  - retain it in-house
  - otherwise outsource it

Transaction Cost Economics

According to Williamson, the only reason a company would consider outsourcing is to reduce costs

Two types of costs: production costs & transaction costs

- Production costs
    - cost incurred to make an IT product/service
    - Includes the cost of labour and material
- Transaction costs
    - synonymous with coordination costs
    - Include costs of monitoring, controlling, and managing the IT work internally or externally

Thus, managers should consider total costs (production plus transaction) when making outsourcing decisions

Transaction Cost Economics

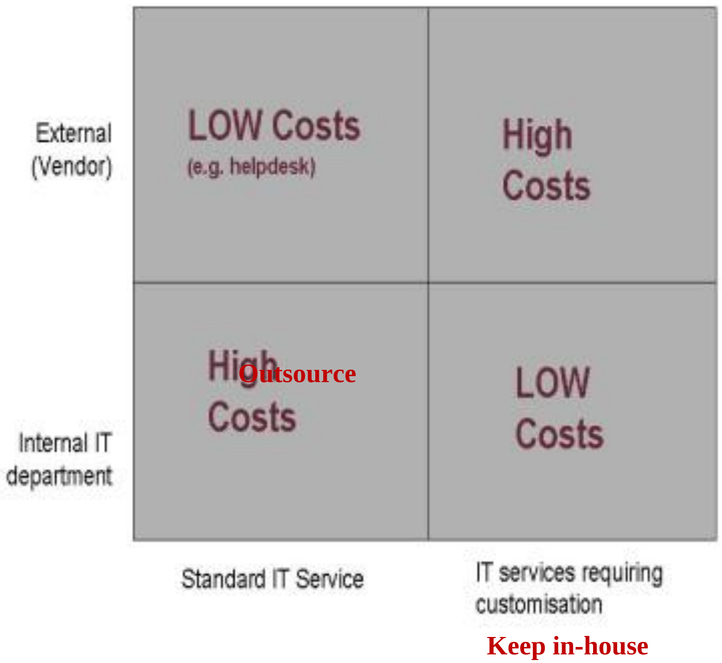
Williamson suggests that

- For IT vendors
  - The production cost is low because of ECONOMIES OF SCALE
  - But the transaction cost is high because vendors can be opportunist and hence needs considerable monitoring
- For In-house IT arrangement
  - Employees are less opportunist and hence low transaction costs
  - Greater production costs because it is hard to achieve economies of scale

Transaction Cost Economics

Williamson further suggests that:

- For situations in which a high degree of customisation is needed, in-house IT production costs will be lower
  > due to the business knowledge and familiarity of internal IT Staff
- For standard IT function/services, for which IT production costs could be lower in vendor. For such a scenario, outsourcing is an attractive option
- IT outsourcing is recommended when total IT costs (production and transactional) is low with IT vendors



Pfeffer's Political Model

- Pfeffer's (1981) model suggests that:
  - Costs and benefits (long-term) are **hard to predict accurately**
  - **Power and political tactics play a major role** in organisational decision making (e.g. IT outsourcing)
- Power refers to the ability of influencing a decision
- Political tactics are processes through which power is exercised.

Pfeffer’s Political Model

Political tactics include the following:

- Tactic 1: Selective use of information (i.e. information hiding)
  - not releasing all relevant information
- Tactic 2: Use of decision criteria
  - E.g. Vendor must have presence in Australia
  - IT staff of vendors must be the members of ACS
- Tactic 3: Use of outside experts
  - who could be a senior manager’s preference
- Tactic 4: Building coalitions

Pfeffer's Political Model

- To understand outsourcing decisions, the political model suggests to focus on the **POWER OF THE IT DEPARTMENT**
- The **POWER OF THE IT DEPARTMENT** can be understood in the following aspects:
  - The reporting structure of CIO
  - The ability to secure required resources/IT budget from senior management
  - The ability of business units to seek IT services from alternative sources (bypassing IT department)

Resource Based Theory & IT Outsourcing

Organisations are viewed as resources and capabilities

– organisations are NOT SIMILAR because:

  > they have differences in the resources & capabilities

IT outsourcing is recommended when an organisation does not have:

– sufficient strategic resources
– and/or capabilities to perform IT function

An organisation should thus aim at exploiting:

– strategic IT resources from IT vendors to fill the gaps in the organisation's IT resources and capabilities

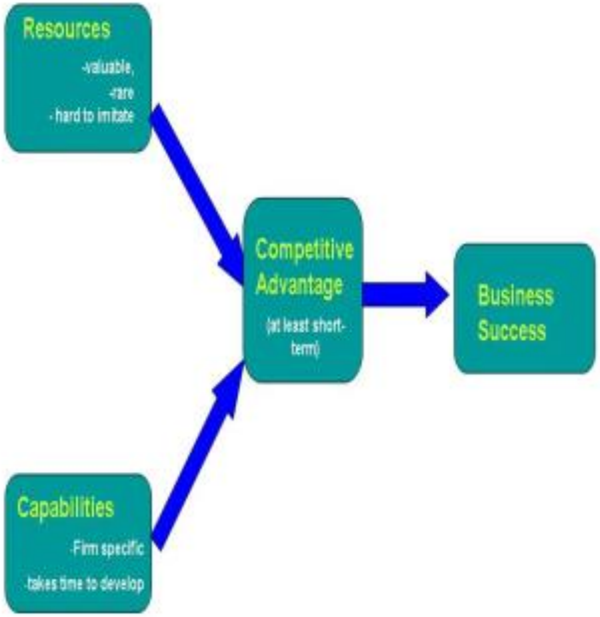


Figure: A simplified view of resource-based view of firms

Agency Theory & IT Outsourcing

Agency theory introduces the concepts of:

- Principals (i.e. in case of IT outsourcing: client organisations)
- Agents (i.e. in case of IT outsourcing: IT vendors)

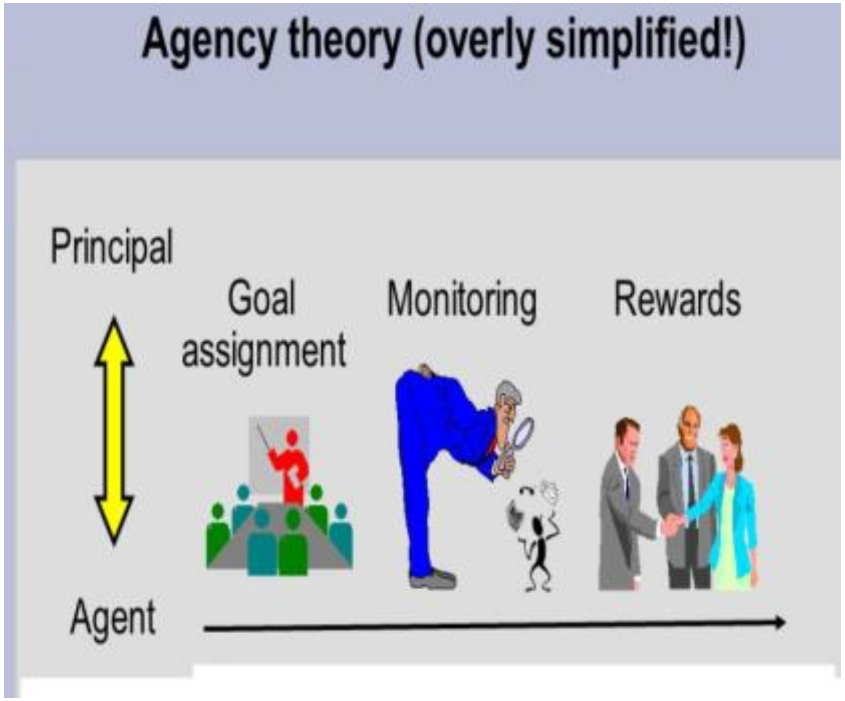
Agency theory advocates that:

- A major issue is to ensure that the agent acts in the interests of the principal

In the case of IT outsourcing:

- each party has its own profit motive
- the client organisation (principal) wants to reduce its IT costs while the IT vendor (agent) wants to maximise its gains/profits
- The principal cannot monitor the actions of the agent perfectly and without cost

Monitoring is not FREE!



Review Key Article

Bahli, Bouchaib, and Suzanne Rivard. "The information technology outsourcing risk: a transaction cost and agency theory-based perspective." Journal of Information Technology 18.3 (2003): 211-221

Agency Theory & IT Outsourcing

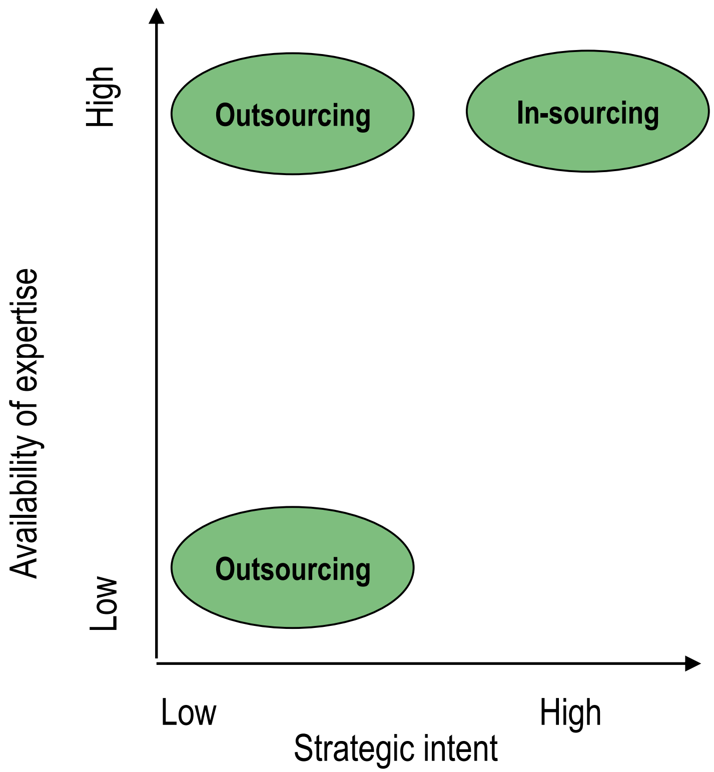
- Agency theory suggests that IT function can be outsourced when:
  - the agent (vendor) and the principal (client) have common goals (e.g. Maintaining good relationships by having cost efficient IT services)
  - When both parties share same degree of risk willingness (e.g. Strong protection from fraud, virus attack)
  - The actions of the agent (vendor) can be monitored by the principal (client company) with confidence using sound contracts

IT Outsourcing and SMEs

- SMEs lack IT expertise
- The primary driver for SMEs to outsource IT function:
  - is to access costly and complex IT/Electronic Commerce technologies so that they can concentrate to their core business activities
  - Cost cutting is not their primary driver
- Key Issues:
  - However, SMEs do not perform any type of audit of the outsourcing services delivered by IT vendors
  - **SMES PREFER TOTAL IT OUTSOURCING**

IT Outsourcing and Large organisations

- Large companies generally choose selective outsourcing
- Strategic IT applications:
  - insourced
- Operational IT applications (regardless of expertise required):
  - outsourced
- They are primarily driven by COST CUTTING
- They perform periodic review/audit of the outsourcing services delivered by vendors



IT outsourcing and large organisations

Some large organisations have gone through cycles of insourcing and outsourcing

Example 1:

- Telstra has gone through the cycle three or four times over the last seven years, taking on internal programmers and development staff then slowly decreasing that, or cutting out a large portion of the whole IT function internally

Example 2:

- Qantas went through a major platform upgrade and kept staff in-house to take over the IT function, but then when QANTAS launched JETSTAR, and then outsourced IT operations

Outsourcing benefits

- Increased quality and efficiency of business processes
- Reduced operating expenses for headcount and exposure to risk for large capital investments
- Access to outsourcing service provider's expertise, economies of scale, best practices and advanced technologies
- Increased flexibility for faster response to market changes and less time to market for new products or services

IT Outsourcing: Benefits for clients

1. Reduced IT costs

- Vendors promise IT costs reduction up to 50%
- A vendor may be able to build, maintain and run an application more cheaply than can be done in-house **(low production costs) because:**
  - greater expertise
  - Superior hardware and software
  - Economics of scale (a common application such as rental management software, student enrolment software to many customer and hence can distribute the costs of development over many customers)

2. Concentration on core activities

- Companies can allocate more resources to their *core business activity* by contracting out IT activities in which they are less competent

IT Outsourcing: Benefits for clients

3. Favourable market reactions (Madison et al., 2006)

- Share price of client organisations may increase when IT outsourcing announcements are made

4. Facilitates downsizing

- Companies that downsize can be left with an IT function that is too large for their needs
  - E.g. General Dynamics downsized in early 1990s due to defence spending cuts, but was left with massive computing facilities
  - Sold data centres to Computer Sciences Corporation (CSC)
  - Transferred a total of 2600 IT employees to CSC

IT outsourcing and business performance

Either excessive outsourcing or very limited outsourcing affects firm's performance because

- too much outsourcing results in technological dependence
- too little outsourcing means inefficiency (because systems development tends to be expensive in-house)

Hence, the relationship between business performance and IT outsourcing is an inverted U-shape in nature (see the diagram)

A company should determine its **optimal level in IT outsourcing**

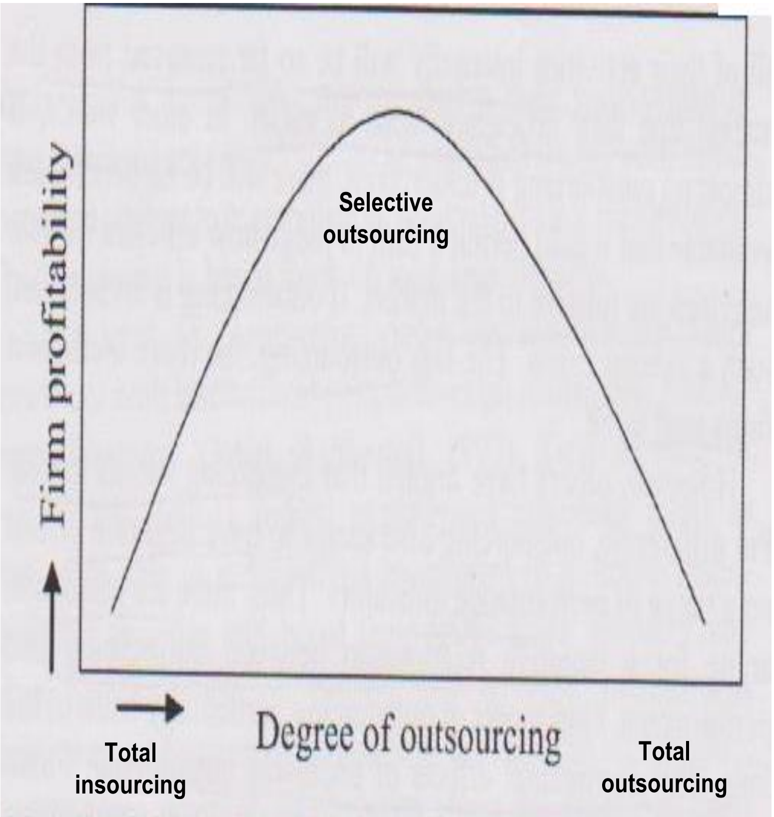


Fig. 1. The relationship between the degree of outsourcing and firm profitability.

IT outsourcing: Benefits for IT Vendors

- **An enhanced reputation**
  – Allows a vendor to attract new clients
  – (e.g. IT vendor providing support to Melbourne Uni can attract Monash and other universities)
- **Economies of scale**
  – Taking on an extra client's payroll function entails only a marginal increase in costs (e.g. Moodle hosted by IT vendors for Monash can also support students of other Universities)
- **Transfer of skills**
  – Skills acquired in solving one client's problem may be applicable elsewhere (e.g. Knowledge about online banking can be used for other banks)

IT Outsourcing: Disadvantages

1. Loss of distinctive competencies
   - Outsourcing the intellectual IT skills can **be a POOR Strategy**
   - For example: When a bank outsources the development of software driving its ATMs, it can equip the vendor's staff with new knowledge which they can use to build similar type of system for a rival bank

IT outsourcing: Disadvantages

2. Privacy concerns

- Breaching privacy is a major concern when IT outsourcing contracts are given to overseas vendors
- The Privacy laws in Developing Nations (in which the vendors are located and operate, e.g. India, Vietnam, Malaysia) may not be as strongly enforced as those of developed nations like Australia and USA

Hence, an air-tight contract needs to be formulated. The contract must articulate:

- adherence of the employees of the IT vendors to the privacy policies of Australia
- Indicate that any disputes will need to be settled in the Australian court of law

IT outsourcing: Disadvantages

3. Increased vendor dependency

- Once IT capabilities are outsourced, a client company may become dependent on the IT vendor.
- This in turn may allow the vendor to use its monopoly power to demand a high price at a later stage

4. Job Loss & impact on economy

- Frustrates IT employees whose jobs are lost to overseas companies
- Forrester Research predicts that several million US IT jobs will go offshore by 2015 (McDoughall, 2004)

YouTube video presentation: Is Outsourcing to Blame for Lack of Jobs?

- http://www.youtube.com/watch?v=H95-IS_EQII&feature=related
- Key issues learned from this video clip:
  - More people are pointing at outsourcing as a source of IT job loss in USA
  - Outsourcing contributes in unemployment rate to rise
  - Outsourcing was even a topic used in last American presidential election campaigns
  - However, according to outsourcing consultants outsourcing brings breathtaking savings which allow organisations to invest more in R&D
  - IT outsourcing allows some companies to remain competitive
  - Share prices go up when outsourcing initiatives are announced because savings can be passed on to the shareholders

Outsourcing Evaluation process

Lacity and Hirchheim (1993) suggested **outsourcing decision tree** for the evaluation of outsourcing decisions based on **two assumptions**

- potential customer organisations want to make rational financial outsourcing evaluations
- the political reasons for initiating outsourcing decision are not addressed

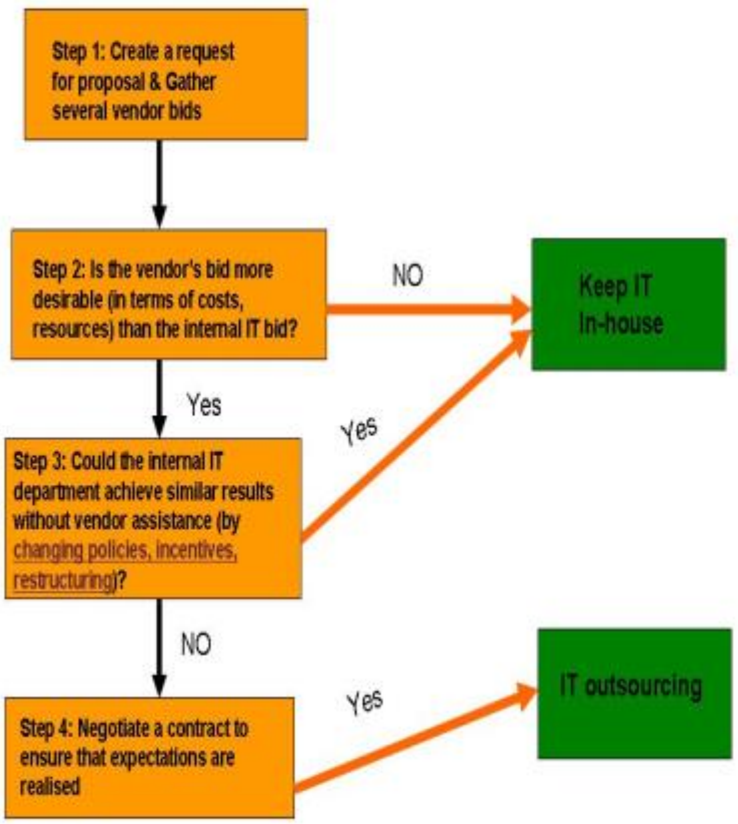


Figure: Key steps involved in IT outsourcing decision tree

Summary

- Different types of IT outsourcing
- Benefits and risks of IT outsourcing
- Theoretical foundations underlying IT outsourcing

- Reshoring
- https://www2.warwick.ac.uk/fac/sci/wmg/mediacentre/wmgnews/?newsItem=8a17841a5ea40245015ebe2436cd4036

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