Outsourcing, Offshoring and Procurement in the Supply Chain

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Agenda

TOPICS OF TODAY:

Sourcing vs. Procurement

Supplier selection and the procurement process
Kraljik Matrix, Total Cost of Ownership

Outsourcing vs. Off-shoring

Buyer-supplier relationships,
OLI-Framework, Unit Total Cost Approach

READINGS:

Textbook 4th ed. Chapter 12

Almquist, E., Caleghorn, J. and Sherer, L. (2018): The B2B Elements of Value. *Harvard Business Review*, Vol. 96, No. 2, pp. 72-81.

Kraljic, P. (1983) Purchasing must become supply management. *Harvard Business Review,* Vol. 61, No.5, pp. 109–117.

Trent, R. and Monczka, M. (2005): Achieving excellence in global sourcing. *MIT Sloan Management Review*, Vol. 47, No. 1, pp. 24-32.

Harding, M.L. (2007): Gauging total costs, supplier by supplier, *Supply Chain Quarterly* 12/2007.

What is Sourcing?

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Sourcing refers to practices, aimed at finding, evaluating and engaging suppliers for acquiring goods and services.

A **sourcing strategy** is then essentially a business case for an organization to decide on the best way to procure resources.

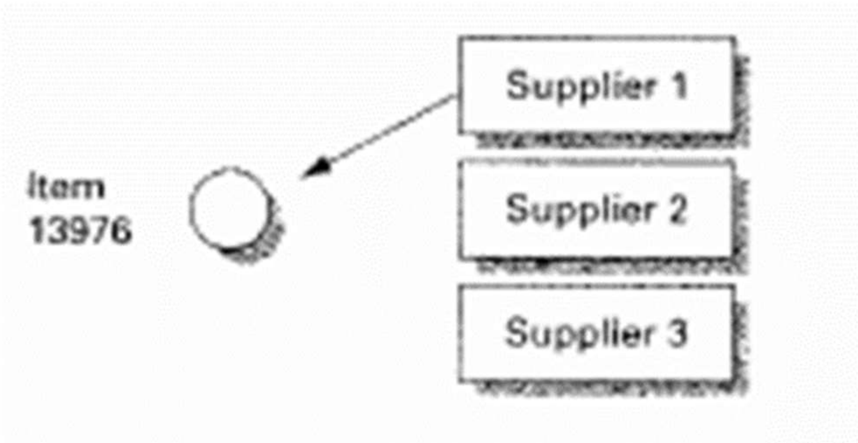
As a minimum, clearly defined requirements should include:

- Level of spend being considered
- Associated risk
- One-off or recurring procurement
- Market maturity
- Technology lifecycle of market
- Number of sources and potential suppliers
- Contract duration
- Potential for performance improvement and cost reduction

Single vs. Multiple Sourcing

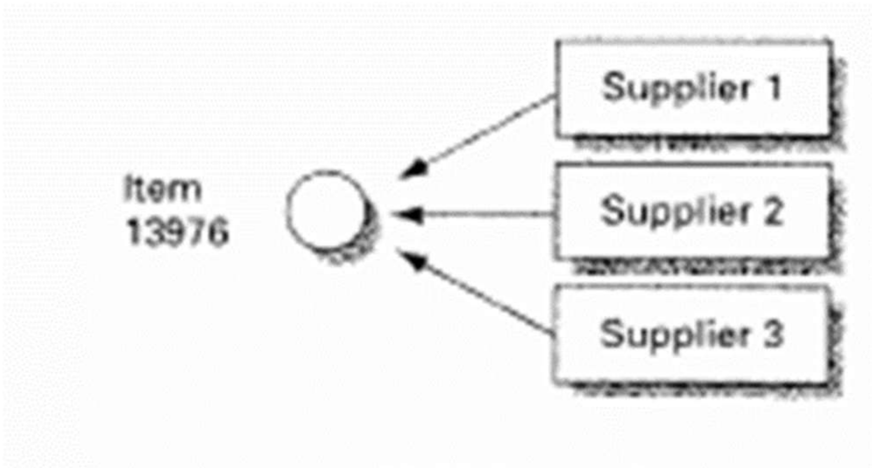
Single Sourcing

Refers to sourcing from one selected supplier, even though there are other suppliers that provide similar products.



Multiple Sourcing

Sourcing policy of using two or more or even many suppliers to purchase certain components, products, product groups or services.



Local vs. Global Sourcing

Local Sourcing

Sourcing of food, ingredients and other consumable products from within a specific radius (distance) from where they will be used or sourced, or from a given geographical area.

Global Sourcing

The practice of sourcing from the global market for goods and services across geopolitical boundaries. It often aims to exploit global efficiencies in the delivery of a product or service.

From Local to Global Sourcing

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		International Purchasing		Global Sourcing	
	Level I	Level II	Level III	Level IV	Level V
	Domestic Purchasing Only	International Purchasing Only as Needed	International Purchasing as Part of Sourcing Strategy	Global Sourcing Strategies Integrated Across Worldwide Locations	Global Sourcing Strategies Integrated Across Worldwide Locations and Functional Groups
Percent of companies operating or expecting to operate at a particular level (N=169)					
Currently	13.4%	21.3%	31.0%	18.1%	16.1%
Future Plans	7.8%	7.8%	14.3%	15.6%	54.5%
Expected Change	-42.0%	-63.0%	-54.0%	-14.0%	+239.0%

Source: Trent and Monzka (2005)

What is Procurement?

Procurement is about specifying requirements, identifying sources, evaluating options and acquiring resources that are fit for purpose, cost effective and sustainable.

It should be considered in terms of the motivation of the buyer and the seller which is different.

The difference between buying and selling

Buyer motivation	Supplier motivation
• Wants the lowest price?	• Wants the highest price?
• Increase scope?	• Decrease scope?
• Buyer power?	• Supplier power?
• Best service?	• Fit for purpose?
• Wants to limit risk?	• Limit liabilities?

Source: Mangan and Lalwani (2016)

The Procurement Process

Stage	Description	Key issues
Specify	Specify the requirements that the contract must deliver	• Requirements should be defined from a technical, commercial and end-user perspective • In many cases organisations do not understand the market better than suppliers • Sometimes the specification is unclear or ambiguous
Identify	Identify suitable potential suppliers who are able to meet the defined requirements or specification	• Advertising and promoting the contract opportunity • Determing an appropriate level of competition to reflect the risk and value being procured • Attracting new or more interesting suppliers who may be able to add more value to your business versus incumbents • Choosing which suppliers have the capability and capacity to deliver the required service
Select	Select a suitable supplier or suppliers to deliver the contract	• Picking a winner from suppliers who have sufficient capability and capacity to deliver the contract • The evaluation criteria in terms of quality and price • The balance needed between quality and price
Manage	Manage the contract to ensure that the key deliverables are fully met	• Success criteria or key performance indicators are required to ensure that the contract requirements are being met • Lessons learned are applied to subsequent contracts

Source: Mangan and Lalwani (2016)

Procurement Techniques and Tools

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Method	Description	Benefits
Request for quotation (RFQ)	Appropriate when the specification is clear and unambiguous and when risk and value are low and there is no real requirement to create unnecessary competition	High levels of discretion are possible by informed and experienced buyers
Negotiation	Appropriate to negotiate directly with a supplier or contractor when the specification, either/or both technical and commercial, requires some clarification or discussion with a supplier who has more knowledge or information than the customer	Customers can have some confidence that they have defined and agreed the specification and scope with suppliers
Formal tender process	When the risk and value is high the tendency is for organisations to revert to a formal tender process where a number of suitably qualified candidates will be invited to tender (ITT). The level of formality increases with value and risk	Tender processes create formal competitions that will deliver performance and cost reductions based on the customer's ability to properly define its requirements Prices can be reduced by 5–20% or higher typically using a tender process
eAuction	More 'sophisticated' approaches would involve electronic auctions (eAuctions), which are appropriate if the category or commodity marketplace is properly researched and understood and there are a number of alternative suppliers who can bid against the defined requirement. eAuctions are appropriate when all other required criteria have been satisfied by suppliers who then bid in the final stages of the auction process	eAuctions require the pre-selection of suppliers who can meet the requirements or specifications. They present higher levels of risk for buyers and suppliers but are credited with delivering up to 30% or more price reductions

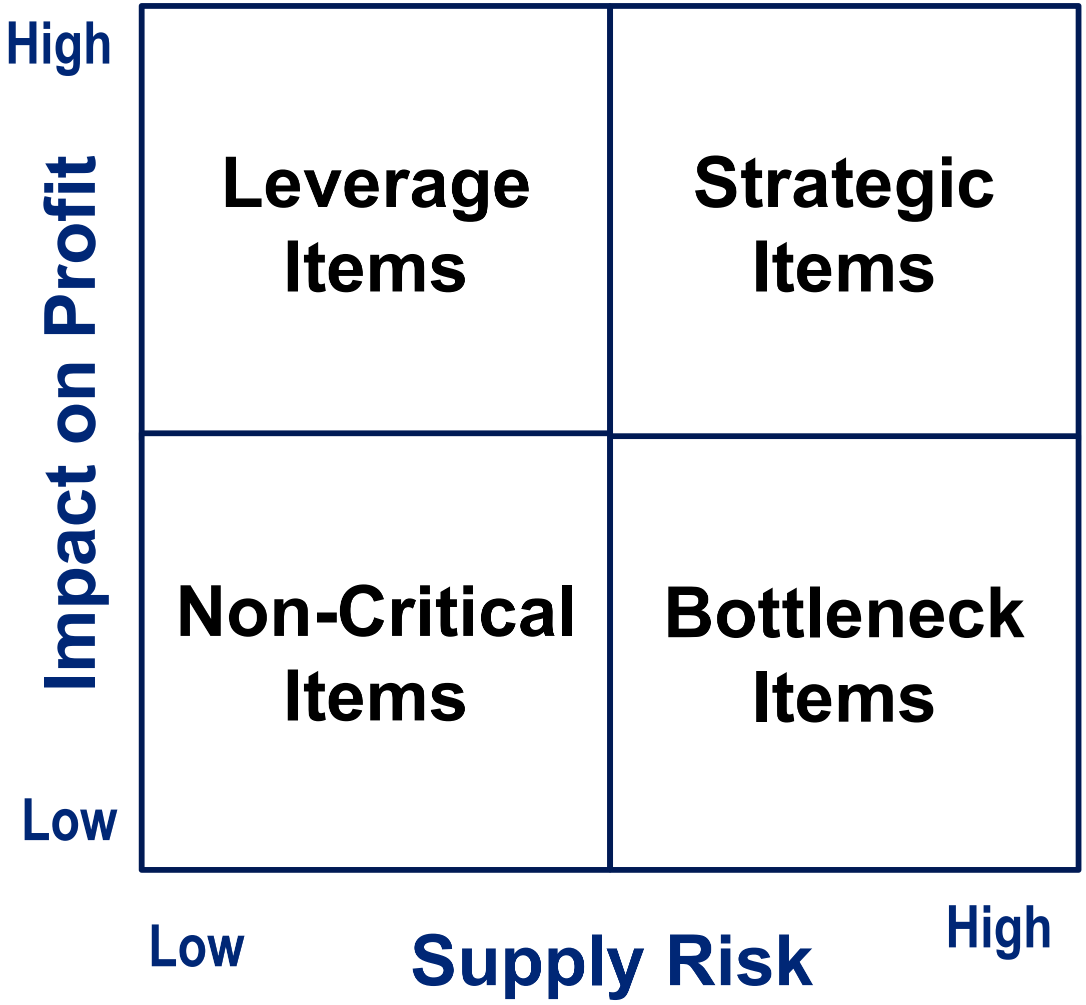
Source: Mangan and Lalwani (2016)

An example for eAuctions

Aalsmeer Flower Auction Fights the Clock | The New York Times

https://www.youtube.com/watch?v=zx7buFdpis4

Managing Value and Risk – the Kraljik Matrix



Sourc: Kraljik (1983)

Procurement focus	Main tasks	Required information	Decision level
Strategic items	Accurate demand forecasting. Detailed market research. Development of long-term supply relationships. Make-or-buy decisions. Contract staggering. Risk analysis. Contingency planning. Logistics, inventory, and vendor control.	Highly detailed market data. Long-term supply and demand trend information. Good competitive intelligence. Industry cost curves.	Top level (e.g.,vice president, purchasing).
Bottleneck items	Volume insurance (at cost premium if necessary). Control of vendors. Security of inventories. Backup plans.	Medium-term supply/demand forecasts. Very good market data. Inventory costs. Maintenance plans.	Higher level (e.g.,department heads).
Leverage items	Exploitation of full purchasing power. Vendor selection. Product substitution. Targeted pricing strategies/negotiations. Contract/spot purchasing mix. Order volume optimization.	Good market data. Short- to medium-term demand planning. Accurate vendor data. Price/transport rate forecasts.	Medium level (e.g., chief buyer).
Noncritical items	Product standardization. Order volume monitoring/optimization. Efficient processing. Inventory optimization.	Good market overview. Short-term demand forecast. Economic order quantity inventory levels.	Lower levels (e.g., buyers).

Managing Procurement Portfolios

Risk/Value	Description	Strategy
High/High	Strategic	Work strategically and collaborate. High risk and value usually represents a high dependency relationship with a supplier with high exit costs. Source and manage strategically
High/Low	Bottleneck	Needs to be managed carefully. The bottleneck may be technical or commercial but to reduce the risk, buyers have to design the bottleneck out of their portfolio or ensure an appropriate relationship with the supplier is maintained – to ensure continuity of supply
Low/High	**Leverage**	Tactical procurement required to ensure value for money is achieved from the most appropriate source or sources. Increase sources and maintain competition between suppliers
Low/Low	**Non-Critical**	Aggregate and consolidate spend. Low-risk/low-value items are like commodities where source is less important than continuity of supply and assuming all other performance requirements are met – source on price

Source: Mangan and Lalwani (2016)

Value for Money
- Total Costs / Life-cycle Costs

Acquisition costs

- Tender costs
- Price
- Installation
- Transport

Operating costs

- Energy / utility consumption
- Licence feed
- Maintenance costs
- Staff costs
- Training
- Insurance
- Environmental taxes
- Travel costs

Disposal costs

- Site clean up
- Refuse collection
- Decommissioning
- Recycling

Source: Mangan and Lalwani (2016)

- A trade-off between low acquisition, but high operating and disposal costs (or vice versa) is evident.
- This might include buying an item with a lower purchase price but higher service, maintenance, repair and/or disposal costs…

Total Cost of Ownership (TCO)

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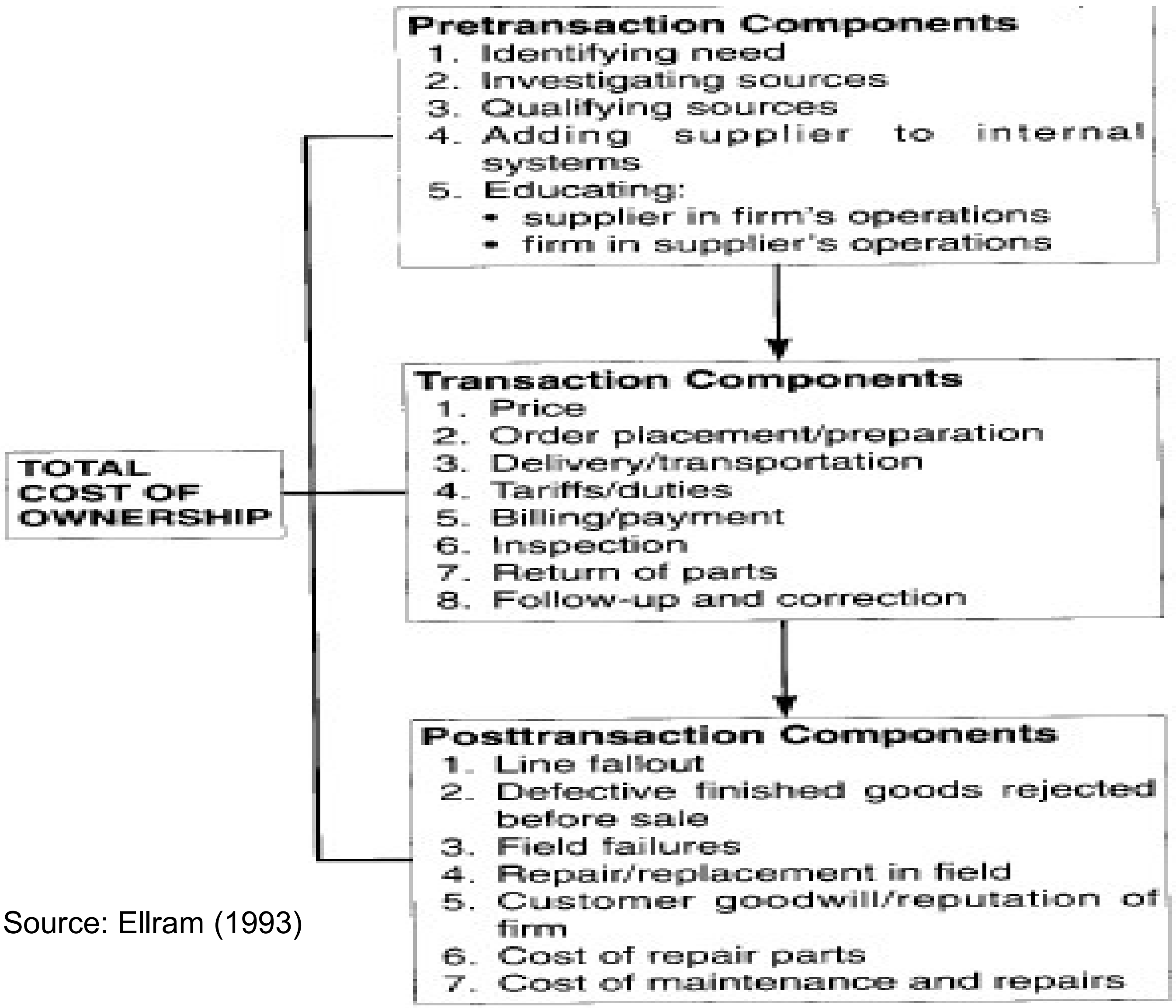

Source: Ellram (1993)

Ellram, L. (1993) Total cost of ownership: Elements and implementation, *Journal of Supply Chain Management* Vol.29/4, pp.3-11

Total Cost of Ownership
Cost Elements and Cost Drivers

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Activity Related to the Purchasing Process*	Potential Cost Elements**	Cost Drivers***
PRETRANSACTION		
Need for new production equipment identified	Capital requisition Form committee to investigate	• Create/file documents • Salaries of committee members
Form design team	Team costs Identifying external candidates, such as potential suppliers for early involvement	• Salaries of team members • Cost of identifying, contacting, and meeting with candidates
TRANSACTION		
Equipment Purchased	Price Paid	• Cost of equipment • Delivery • Warranty
Equipment Installation	Installing equipment	• Labor, moving old equipment, raw materials, destroyed in testing, extra equipment/parts needed for installation
	Shutting down other operations	• Finished goods shortages, labor (if paid for idle time)
POSTTRANSACTION		
Routine Maintenance	Downtime	• Labor downtime, finished goods inventory buildup and/or shortage if lengthy
	Cost of warranty/out of warranty work	• Price paid for work performed
Repairs	Downtime	• Labor downtime, finished goods inventory buildup and/or shortage if lengthy
	Cost of warranty/out of warranty work	• Price paid for work performed

Source: Ellram (1993)

Ethical Sourcing and Reporting

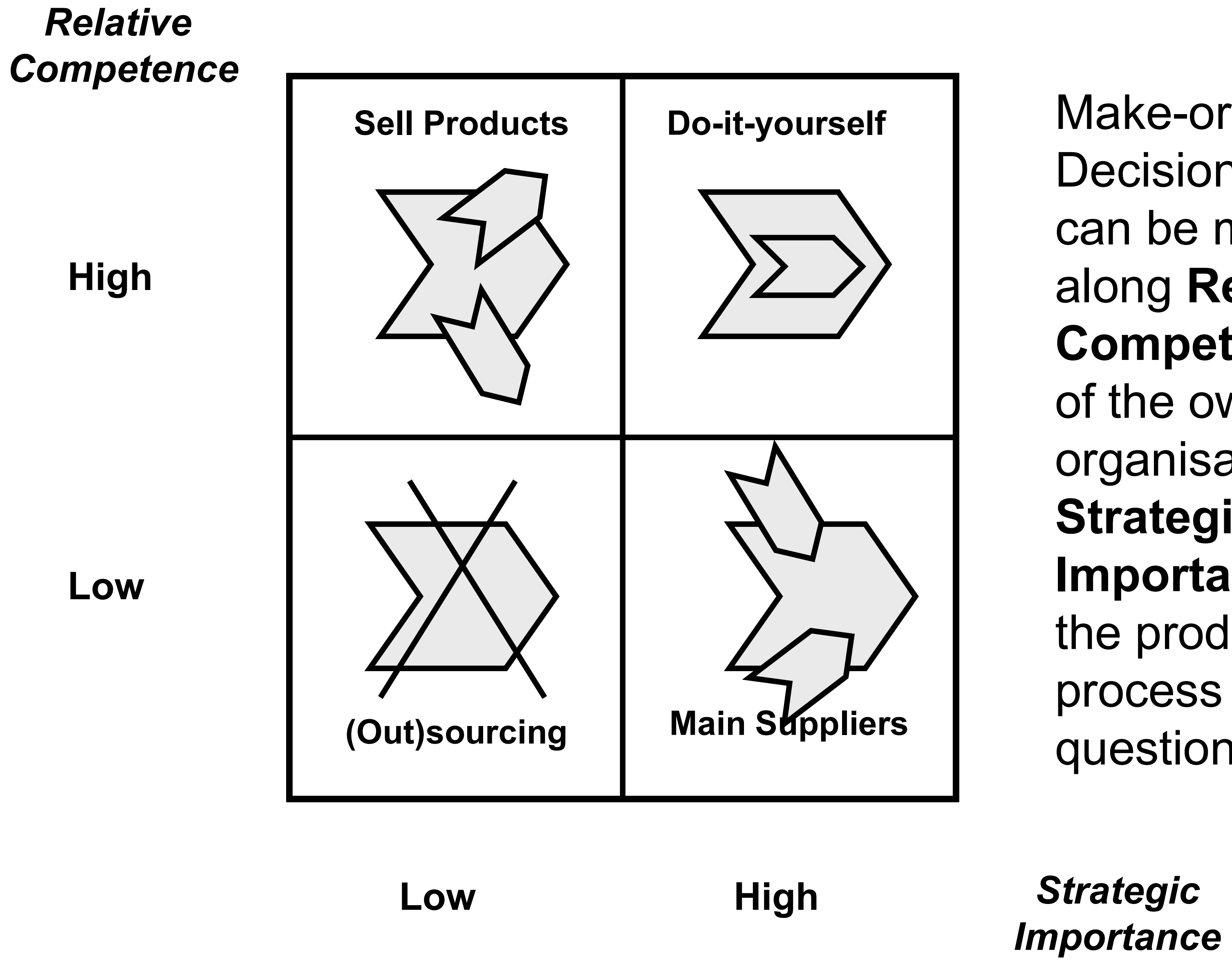
Very complex subjects of sustainability, including

- Green products
- Carbon emissions
- Transport
- Environmental performance
- Health and safety
- Diversity and equality
- Standards at work including suppliers
- Role of the business as
  an employer, customer and corporate citizen

Discussion Topic: Modern Slavery

Source: https://slaveryfootprint.org/; https://frdm.co/

Make-or-Buy Decision Making



Make-or-Buy-Decisions can be made along **Relative Competence** of the own organisation and **Strategic Importance** of the product or process in question

Source: Kummer and Schramm (2004)

Outsourcing
Motives and Risks

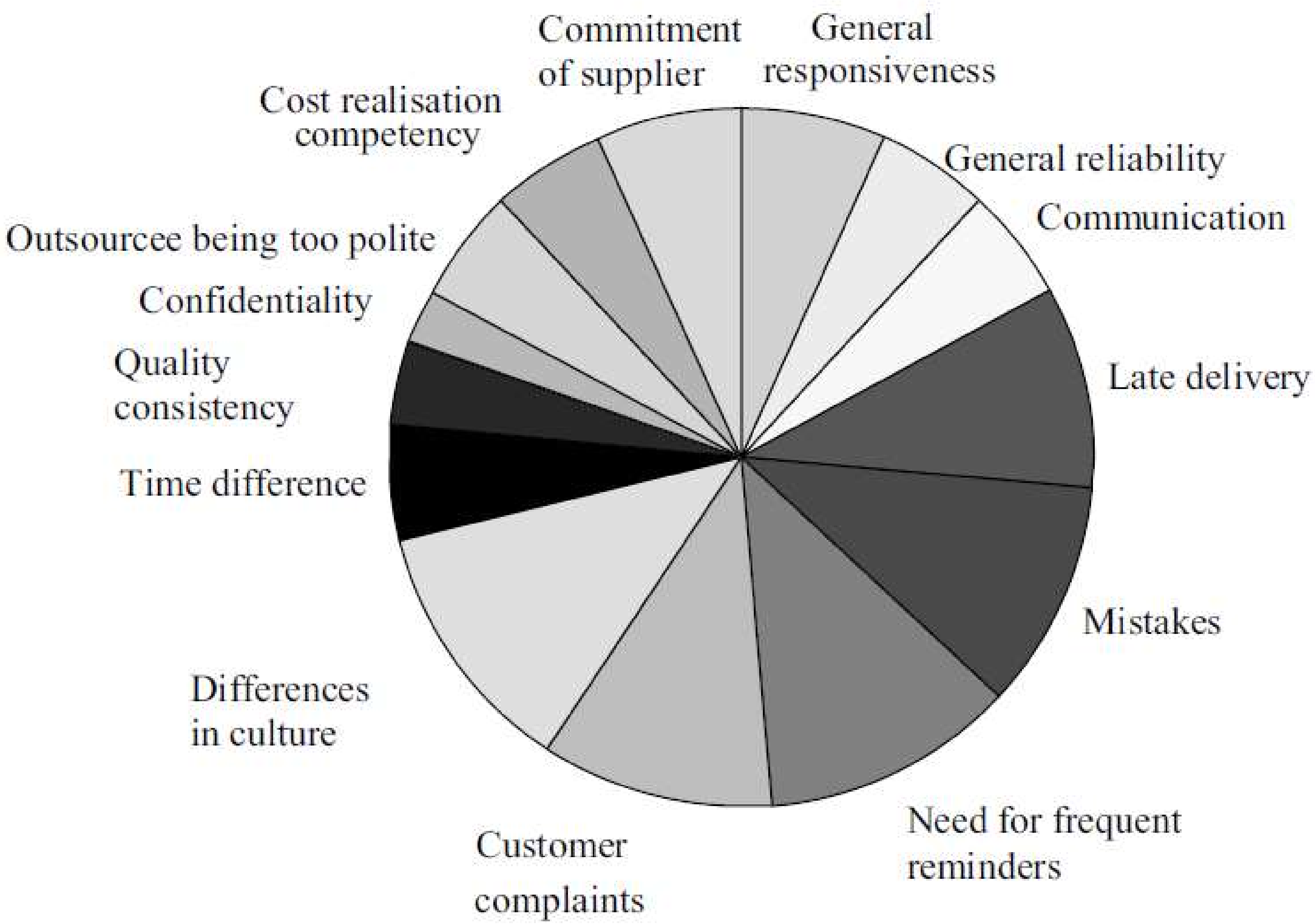
Outsourcing is the transfer of the management and delivery of a process to a third party previously performed by the company itself.

Motives of Outsourcing	Risks of Outsourcing
▪ Cost advantages ▪ Concentration on core business ▪ Improvement of flexibility, efficiency and performance ▪ Advantages in financing and risk transfer ▪ Access to technology	▪ Higher total costs compared with a make option ▪ Opportunistic behaviour of suppliers ▪ Transfer of core competencies ▪ Loss of know-how

Some More Reasons for Outsourcing in Manufacturing

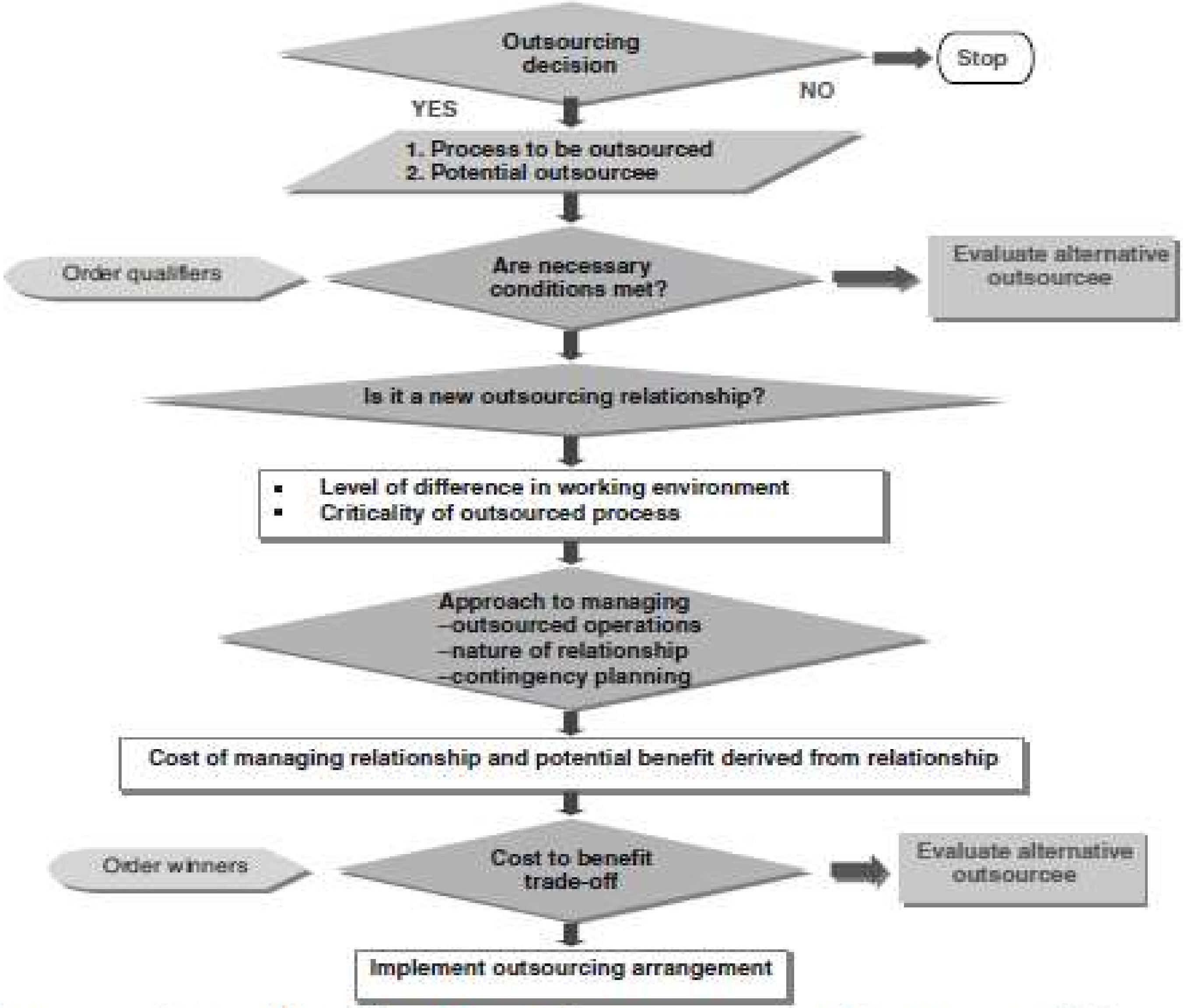
- Reduce direct and indirect costs
- Reduce capital costs
- Reduce taxes
- Reduce logistics costs
- Overcome tariff barriers
- Provide better customer service
- Spread foreign exchange risks
- Share risk
- Build alternative supply sources
- Pre-empt potential competitors
- Learn from local suppliers, foreign customers or competitors
- Gain access to world class capabilities or attract talent globally

Most Frequently Reported Problems Leading to Failure in Outsourcing



Source: Pandit (2005), in: Mangan and Lalwani (2016)

A Framework for Evaluating Potential Outsourcees



Source: Based on Lalwani et al., (2007)

Criteria for Evaluating and Selecting Outsourcees

Common **order qualifiers** in outsourcee selection are

- Reliability of delivery on time
- Quality certifications
- Conformance to agreed specifications
- Delivery lead time
- Financial capability
- Performance track record
- Price or cost reduction
- Senior management attitude
- Responsiveness to demand uncertainty
- Record of corporate social responsibility

Some of them can be **order-winning criteria** in a cost-benefit analysis as price should not be the only criterion to be taken into consideration!

A Total Cost Approach to Supplier Selection

Unit total cost (UTC) is defined as the unit purchase price amended by an appropriate monetary factor to reflect other pure “hard costs” of an item coming along with selecting a specific supplier.
It follows a **five-step framework**:

1. Identify all of the total-cost factors that are important to the organization. This is best done by inviting all stakeholders to identify cost elements and other issues of interest to them regarding the source of supply that is under evaluation.
2. Develop a "price adder" formula that will translate each total-cost factor into monetary unit based on its perceived level of importance.
3. Add to each supplier's quoted price a debit (or credit) for each total-cost factor, appropriate to that supplier's performance in relation to those factors.
4. Add together the quoted price plus all total-cost factors to get unit total cost.
5. Award the business to the supplier with the lowest unit total cost.

Source: Harding (2007)

https://www.supplychainquarterly.com/articles/121-gauging-total-cost-supplier-by-supplier

Three categories of monetary measures in UTC calculations

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Cost Factors

Hard costs that have already been quanti-fied by a quoted price or invoice etc.

Just have to broken down to unit costs per shipment, period etc.

Could be also cost savings like discounts for prompt payment

Performance Factors

The cost to the organization of a supplier's failure to perform.

Measures like on-time delivery, product qua-lity, and lead time to be transformed in a “price adder” formula, like percentage of quoted price or reflec-ting actual costs per unit on average.

Policy Factors

Issues of policy, preference, and all other issues that are not data-related.

May be expressed in monetary terms as a credit for suppliers that comply or a tax on those who don`t.

Examples are e.g. recycling content, heroics, design support etc.

Example of UTC Calculation

Factor	Able Co	Baker Co	Charlie Co
Quoted Price	$10.00	$11.50	$12.00
Transport $/Qty	+.09 (8.95/100)	+ .07 (7.00/100)	0
Inventory @1.5% / wk	+1.20 (8 weeks)	+ 1.04 (6 weeks)	+ .18 (1 week)
Lead Time @2% / wk	+2.00 (10 weeks)	+2.07 (9 weeks)	+1.44 (6 weeks)
Quality % Reject	+1.30 (13% Reject)	+ .92 (8% Reject)	0 (No rejects)
On-Time Del 1 - % OT	+1.50 (85% OT)	+1.27 (89% OT)	+1.20 (90% OT)
Discounts Cash	- .20 (2% 10 Net 30)	- .06 (.5% 10 Net 30)	- .12 (1% 10 Net 30)
Cost Save Reuse Con			-1.00
Total Cost	$15.89	$16.81	$13.70

Source: Harding (2002) Calculating The Total Cost of Ownership For Items Which are Inventoried, NMPA Vol.12, Issue 2, pp. 21-23 https://cdn.ymaws.com/www.npma.org/resource/resmgr/PhInvArch/14-2-Harding.pdf

Offshoring

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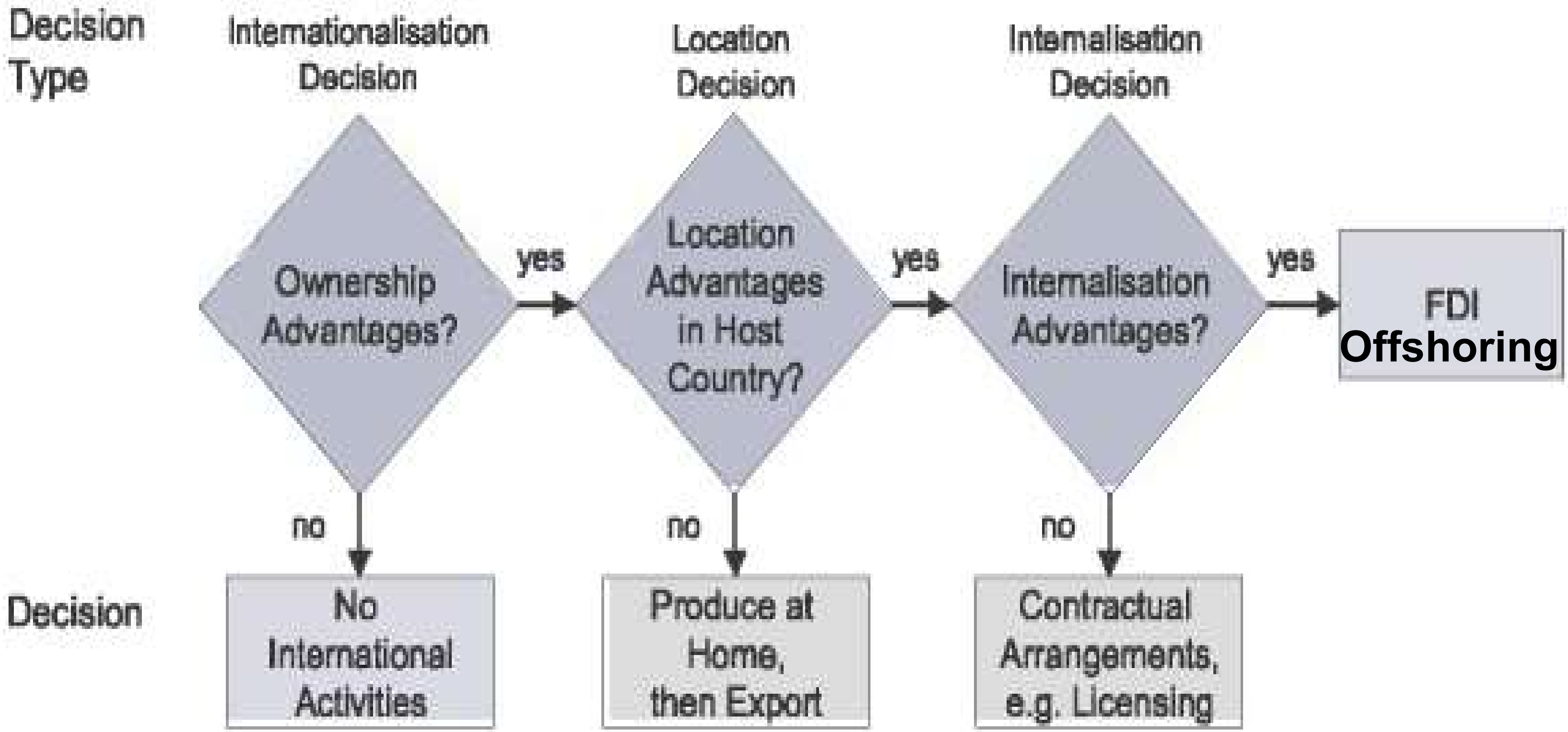
- **Offshoring** is the transfer of specific processes to lower cost locations in other countries / regions
- **Not the same as outsourcing**
  - Outsourcing involves handing process ownership over to a third party
  - In offshoring, the company may still own and control the process itself in the lower cost location
- Sometimes **nearshoring** and **backshoring** happens…

Table 12.1 Some of the reasons why companies offshore

Lower costs in offshore regions
Less stringent regulatory controls in offshore regions
Deregulation of trade facilitates offshoring
Lower communication and IT costs
Improving capabilities in many offshore regions
Clusters of specific activities (e.g. call centres) emerging in certain regions

OLI Decision Tree, a Tool for Decision-making about Offshoring



Source: Adapted from Sudarsanam 2003, p. 201; Welch/Benito/Petersen 2007, p.31. In Morschett et al. (2010), p. 250

Discussion Topic
Supplier Selection

Select the best supplier (ABC A/S or XYZ Ltd.) based on the supplier data posted on the next slide!

Which supplier is most prefered by you and why?

Supplier Data of ABC and XYZ

Supplier ABC A/S

- **Quoted price** (without any extras): $ 30.00
- **Freight costs** last year you incurred a total freight cost of $40 for sourcing 150 pieces from ABC using truck transport solemnly.
- **Discounts:** ABC offers 3% discount on prompt payment
- **Delivery performance:** ABC delivers the product 95% on time.
- **Quality:** there were 5% rejects from ABC's goods last year.
- **Lead time:** it takes 6 weeks to source the product from ABC.
- **Recycling policy:** ABC recycles and confirms to your recycling and CSR (Corporate Social Responsibility) policies.
- **Heroics:** ABC has never gone out-of-the-way to help you in the time of need & distress.
- **Background:** ABC is a local Danish supplier.

Supplier XYZ Ltd.

- **Quoted price** (without any extras): $25.00
- **Freight costs** last year you incurred a total freight cost of $50 for sourcing 100 pieces from XYZ, using road & water modes.
- **Discounts:** XYZ offers 1% discount on prompt payment
- **Delivery performance:** XYZ delivers the product 85% on time.
- **Quality:** you rejected 10% of XYZ's goods last year.
- **Lead time:** it takes 12 weeks to source the product from XYZ.
- **Recycling policy:** XYZ doesn't recycle and doesn't completely agree with your recycling policy.
- **Heroics:** ABC has helped you in the time of need & distress - Once when a fire broke out damaging all our stock; another time when we faced shortage; and another time when the shipment got lost.
- **Background:** XYZ is a typical US-American supplier. However, the CEO of XYZ & you went to the Copenhagen Business School together.