SOURCING

1. Introduction

This topic develops some of the issues raised in Topic A7 Sourcing Strategies and Global Sourcing, and also draws upon Topics B4-B6 in respect of the European Single Market rules, especially regarding competition, and the Procurement Directives which require advertising of contracts. The issues examined in these chapters set the scene for a more detailed examination of the implementation of sourcing strategies as set out below:

- Supply market analysis including identification of potential suppliers
- Vendor appraisal
- Supply base optimisation
- Involvement of the supply base in new product development
- Supplier selection using tools for evaluation of multiple criteria

Sourcing is the core task or competence of the buyer and therefore it is essential that it be performed efficiently and effectively if purchasing is to be seen as a key contributor to the overall performance of the organisation. Spekman et al (1999) present 10 principles that lead to effective sourcing and supplier management:

- Integrate suppliers into the supply chain (Topic A4)
- Share information ((Topic C6)
- Develop trust (Topic C4)
- Organise effectively to achieve alignment (Topics A4, A6)
- Use commodity teams (Topics D1, D10)
- Look globally for advantage through global sourcing (Topic A7)
- Focus on total costs (Topic C2)
- Rationalise the supply base
- Let suppliers manage through outsourcing
- Leverage technology to achieve the benefits of information capture and sharing. (Topic C9)

Whilst all of these principles together would apply only to strategic suppliers and supply chains, and most are dealt with in other topics as indicated, those dealt with below, namely rationalising the supply base and outsourcing, are an important part of all organisations' sourcing strategy.

2. Supply market analysis

The external environment is regarded as the most critical variable affecting the performance of organisations. The nature of the environment, whether simple or complex, stable or turbulent, has been found to influence the structure and operations of organisations. The most important environmental aspect for purchasers is the supply market.

2.1 Information sources

Basic information about the number and location of potential suppliers, the nature of products, prices charged and forecasts of economic and political stability is an essential requirement if you are to effectively analyse your supply market, rather than simply buy from traditional sources which may not be competitive. Increasingly the
traditional paper based sources of information from company directories and buyers’
guides are being produced in electronic form, and new electronic means of accessing
potential sources of supply are being provided via the Internet.

In Erridge et al (2001, Chapter 17), Brenner and Wilking address the use of the
Internet for the identification of potential suppliers and associated processes. The
authors use current examples to show how the publication of procurement needs on
the Internet supports market-orientated activities in purchasing. The examples used
include the Brother Industry Website, the Alno Website and the Deutsche Telekom
AG Website. On the basis of the examples given, a draft is developed for the step-by-
step establishment of applications on the Internet. Data, functions and the
organizational forms necessary for purchasing on the Internet are also detailed. This
chapter should therefore be of particular benefit to practitioners who wish to establish
a Website for their own company. Whilst there are infrastructural and legal obstacles
to be overcome, the chapter provides an insight into future best practice relating to
electronic linkage to customers and suppliers, Web-based tendering and submission
of bids.

2.2 Geographical scope
Sourcing strategies should include consideration of the markets from which key
products and services may be sourced. Whilst for many organisations the local or
national market can provide most requirements, in highly competitive industries
successful companies operate on a global sourcing basis, although variables such as
the nature of the product, its criticality to organisational effectiveness, and the
strengths of local and national markets need to be considered.

Global sourcing strategy is discussed in Topic A7: here some of the practical issues
will be considered. If you are buying mainly from local markets, you need to consider
whether your supplies are truly competitive. For example, whilst your supplier may
be local, the supplies themselves may originate from another country. In this case,
you are still paying transport costs, plus your supplier's mark up.

If you work in the public sector, or for one of the Utilities, you are required by the
European Community Procurement Directives to invite bids from throughout the
Community, and not to discriminate against non-national suppliers. The Directives
are outlined in Element B6. This is equally true in respect of the WTO Government
Procurement Agreement. Whilst the procedures may not necessarily ensure globally
competitive supplies, and may overemphasise price, they do force purchasers to test
foreign markets.

Apart from constraints such as legal requirements considered above, there are
however many positive reasons for sourcing globally:

- obtaining world class supplies: the best quality suppliers may not be located
  locally
- the product market in which you are buying operates globally eg commodities
  such as oil
- the product or technology may not be available locally
- exposing the organisation to different practices and cultures so as to learn and
  improve
- as a means of eventually manufacturing the product locally
- to achieve the lowest cost supply from a source where wage costs are low and
  exchange rates are favourable
- where countertrade requires a reciprocal import order ie British Airways may
  agree to buy Boeing on condition that they use Rolls Royce engines
Clearly difficulties with transportation, language and cultural barriers, different legal systems, different product standards and specifications, currency fluctuations and political uncertainties are likely to increase with sourcing products globally. The following case illustrates the process of buying critical components globally.

**Case Study 1 Buying Components in Global Markets**

Ford differentiate between key and non-key parts in terms of whether they are sourced locally or globally. Thus there is no point shipping low unit cost items such as brackets, but critical and more expensive items such as an injection pump are sourced globally. Prices would be obtained from various suppliers, converted into dollars at current exchange rates, costs of freight etc. added, to give a delivered price to several plants. Commitments may be made for 3-4 years, but decisions about parts for new models could have implications for up to 15 years, so risk factors would be subjected to sensitivity analysis to test the effect of future changes, for instance, in exchange rates.

Ford do not buy much from Japan as it is very expensive. However there is now a tendency for Japanese parts suppliers to locate in Europe. Thus, just as Bosch are making starter controls in South Wales, Nippondenso have set up a plant to make electronic controls in Portugal.

Source: Interview, Lead Buyer, Ford UK

Although price is clearly not the only or necessarily the most important factor considered, if you wish to source products from markets with a high reputation for quality, which also have strong currencies, there is always a risk of unfavourable exchange rate fluctuations which make the quality cost differential too high. Thus there may be a higher risk of having to renege on an agreement to source a product in a foreign market. Suppliers themselves may decide, perhaps with encouragement from major customers, to relocate so as to reduce or overcome the cost and risk which otherwise may mean loss of business.

The Ford case also shows the necessity to identify and assess key influences in the supply market and their future direction using forecasting techniques such as trend analysis and scenario planning. The sensitivity of the decision to place an order with a supplier to change in any variables, such as exchange rates, political disorder, industrial unrest, may then be assessed by according weightings to their importance, and estimating the degree of risk in percentage terms.

The discipline of assessing supply markets beyond the customer's own locality, region or country is one that you should employ to ensure that key supplies are actually competitive on a global scale. If you do not ensure the competitiveness of your supply markets, your competitors will certainly do so, to your detriment.
3. Vendor appraisal

The need to examine potential suppliers through vendor appraisal is recognised in most organisations, though the process may range from systematic examination of every supplier by a specific department to assessment on an exceptional basis by particularly enthusiastic purchasers. The main purpose is to ensure that suppliers with which the organisation does business can meet the organisation's requirements before supply agreements are concluded so as to avoid the expensive and time consuming process of dispensing with a supplier who turns out to be unsatisfactory. It is clearly most important for suppliers with which the organisation is seeking long term relationships.

Vendor appraisal is distinguished from vendor rating or evaluation in that in principle it is carried out before the supplier under appraisal is awarded any business. Vendor rating is then the process of monitoring performance continuously against agreed criteria, and vendor evaluation may be a periodic review of the supplier's performance which takes place after the contract to supply has been completed. However, in practice, vendor appraisal and evaluation may merge, in that all organisations already have a supply base before they introduce a system of vendor appraisal, and it may also be used to assess an existing supplier's capacity or suitability to expand its supply to the organisation. Thus appraisal and evaluation are part of a cyclical process by which an organisation may seek to assure that its potential suppliers can deliver to the organisation's requirements. Assessing your existing supply base may also be part of its optimisation, which is discussed in the next section.

3.1 The vendor appraisal process

Vendor appraisal (VA) may be applied to new or existing suppliers who wish to supply additional goods and services to those they already provide. You will first need to inform companies invited to obtain approval as a qualified supplier of the procedures and criteria against which they are to be evaluated. As these may be extremely stringent, involving examination of production processes, quality standards and financial data it is not a step which either the potential supplier or the purchasing organisation should enter into lightly. In particular, you should ensure the confidentiality of data about the potential supplier.

Depending on the relationship between the purchasing organisation and the potential supplier, informing them that they will be subjected to stringent evaluation before being allowed to supply may be offputting, if not handled sensitively. Factors in the relationship which will affect the potential supplier's willingness to accept evaluation may include:

- the relative size of purchaser and potential supplier
- whether they have done business previously
- whether it is a buyer or supplier market for the product
- whether the potential supplier has supplied other organisations operating a similar system.

Potential benefits for the supplier from undergoing appraisal include not only the obvious one of becoming an approved supplier, but also being able to use its status with a major customer to attract business from other organisations. There may also be the opportunity to participate in supplier development and improvement activities.

Any or all of the following VA methods may be used, in increasing order of interaction with the supplier:
- checking of references
- speaking with previous and current customers
- third party certification eg ISO9000
- testing of samples
- analysis of trading accounts
- questionnaires
- visits to supplier
- audit of supplier
- analysis of product costings
- analysis of management structures, staffing and administrative procedures
- analysis of production and quality processes
- analysis of overall financial viability and business performance

Whilst many of these methods will provide quantitative, objective measures, other qualitative factors are also important where overall 'cultural fit' is regarded as important. In other words, is this a company with which you want to develop your business? Do they have the same management philosophies eg on employment of minorities? Are they willing to trade electronically? Do they have compatible production philosophies eg on health and safety and protecting the environment?

In respect of the latter, Noci (1997) designs a 3 phase conceptual model for selecting 'green' suppliers. In the first phase, the organisation's corporate 'green' strategies are identified, whether reactive, concerned only with compliance, or proactive, aiming to achieve a competitive advantage. In Phase 2, indicators for assessing a supplier's environmental performance for both of these strategies are developed. In a reactive approach, environmental standards with which compliance is required are identified, and the consistency of the suppliers' environmental performance with respect to these standards is assessed. A proactive strategy requires analysis of the supplier's capacity to support product innovation, and respond in time to any requirement. Qualitative evaluation criteria and operating measures are proposed for suppliers' 'green' competencies, current environmental efficiency, supplier's 'green' image and the net life cycle cost of the supplied component. Phase 3 deals with implementing the supplier selection decision. A reactive strategy starts by eliminating suppliers whose environmental performance is not consistent with regulators' prescriptions. The whole life cost of the supplied component is measured, and a formula is developed which synthesizes the overall environmental performance of the supplier with respect to the amount of solid wastes, the volume of waste water, the quantity of air emissions and the energy consumption achieved by the supplier. In a proactive strategy, an Analytic Hierarchy Process (AHP) approach is proposed in five steps. First, designing the hierarchical structure of the decisional problem in four levels: the overall objective; the primary criteria for assessing suppliers' environmental efficiency; the sub-criteria that operationalise the primary criteria; and the decisional alternatives i.e. feasible procurement solutions. Secondly, pairwise comparisons of the relative importance of criteria and sub-criteria are introduced to guide managerial judgements. Thirdly, quantitative measures or qualitative evaluations are identified to describe the extent to which each supplier achieves the sub-criteria. The fourth step deals with computing the priorities of the criteria and sub-criteria; and calculating the priorities of different suppliers with respect to each criterion and sub-criterion by means of a matrix equation. Finally, the overall ratings are calculated and the supplier with the highest score selected.

In similar vein, Murray and Couples (in Erridge et al 2001, Chapter 4) suggest purchasing has a major contribution to make in improving the environmental performance of organizations. They argue that environmental information is not
easily comprehensible to non-specialists and therefore there is a need to develop more user-friendly tools. This can be done by further developing the familiar and incrementally adapting existing supplier appraisal tools. A questionnaire survey of local authority purchasers in the UK showed the limited extent to which green supplier appraisal is carried out currently. The authors develop a green supplier appraisal model which recognizes the costs involved with supply chain management and suggests a portfolio approach based on environmental risk and financial cost.

3.2 Vendor prequalification in the public sector
In the public sector it has been common practice to advertise to invite interested suppliers to prequalify for eligibility to tender, and if successful to be placed on a select list. In the absence of rigorous vendor appraisal, which traditionally has not been carried out in the public sector, select lists may easily become the vehicle for giving business to favoured companies and excluding others equally or better qualified. Whether this is because of lack of purchasing skills, lack of initiative, or, in the worst case, fraud, it amounts to poor purchasing practice which inevitably increases the cost of the purchase.

However, select lists are not permitted for public sector organisations under the European Directives on Public Procurement, although they are allowed in the form of qualified lists under the Utilities Directive. Prequalification is however permitted for each separate contract ‘on the basis of information given as to the supplier's personal position and in response to the prescribed questions that may be asked to ascertain if the supplier fulfils the minimum conditions as to eligibility and financial and technical criteria’ (Boyle 1994 p 106). This is particularly appropriate when the restricted or negotiated procedures are used, in order to ensure an objective and transparent mechanism for selecting the suppliers to be invited to bid. However, as Boyle argues, the prescribed procedures could still result in many suppliers being eligible to participate, and there is no clear guidance on how a manageable short-list of suppliers may be drawn up.

Such prequalification is by no means as rigorous as the vendor appraisal systems outlined above, with the result that public sector organisations are restricted in the extent to which and manner in which they are permitted to refuse to do business with potential suppliers. This does not of course mean that they are forced to select suppliers which they know to be unsatisfactory (perhaps from contracts which the supplier has had with other public sector organisations), but that they may have difficulty in obtaining sufficient information about the potential suppliers in advance of the formal tender. Thus the risk of contracts being awarded to unsatisfactory suppliers is higher in the public sector because rigorous vendor appraisal is not possible prior to tendering, and the number of responses to a tender may preclude extensive appraisal of every respondent.

3.3 Critique of Vendor Appraisal
Lamming et al (1996) state that customers and suppliers have different perceptions of its value and purpose, with the customer viewing it as ‘a form of developmental co-operation’, and the supplier as ‘an element in a coercive strategy’. The authors found that whilst the majority of customer firms claimed to be implementing Vendor Assessment as part of a strategy to improve supply relationships, there was a lack of genuine involvement of suppliers in the design and development of the schemes. As the main purpose of VA is to remove unwanted suppliers, however, it is not surprising that perceptions of it differ between customer and suppliers, with the benefits favouring the former. As for the future development of VA, the authors argue that new requirements include periodic re-application of assessment, regular feedback
of supplier performance data, and closer collaboration between supplier and buyer on managing the process. More strategic factors, such as the supplier’s innovation capability, should be included, as with the Nissan QCDDM scheme.

INSERT Figure 13 Briefing on the (Nissan) Supplier Appraisal and Improvement System, from NAO (1999) Modernising Procurement, p.44

4. Supply base optimisation

Organisations which purchase from large numbers of suppliers are incurring unnecessary costs. These are both administrative, and also in terms of missed opportunities to standardize the products purchased. A system of vendor appraisal may be used to identify those approved suppliers with which the organisation intends to concentrate the majority of its supplies. Those failing to meet the organisation's standards may be discarded, thus reducing the range of suppliers with which the purchaser, as well as other administrative departments, has to deal.

4.1 Strategic significance of the supply base

The extent of rationalisation is likely to be a strategic decision establishing an overall target number of suppliers to be achieved within a set time period, which may then be broken down by product or service area by purchasing managers, so that for each area an optimum number of suppliers is achieved and maintained. Criteria for determining those suppliers to be removed and retained are also likely to be set at senior management level.

Optimization carries with it the implication of extending the supply base to new suppliers for certain products or services, so as not to close off the opportunity to benefit from new technologies or more efficient emerging suppliers. Thus whilst optimization is likely to result in a smaller number of suppliers overall, those retained may be supplemented by the addition of suppliers new to the organisation.

4.2 Structure of the supply base

Different types of supply bases may have different implications for optimisation. A totally unstructured supply base will need to undergo a `clean-up' process to ensure supplier records are accurate and to remove duplicated or redundant records. For some organisations, especially in the public sector, legal and policy requirements on ensuring open access and non-discrimination mean that reducing the supply base of active suppliers may not be possible or desirable, but certainly efforts should be made through pre-qualification to ensure that all suppliers meet the minimum specified criteria. The supply base may also be structured in line with organisational policies on adding any suppliers which are local, small, from minority or disadvantaged groups.

The strength of horizontal networks lies in the availability of skills and expertise of a large number of small, local firms and agencies, and apart from the obvious need to ensure that the basics of quality, delivery price etc are met satisfactorily, optimisation implies working together more effectively, rather than reducing the numbers of suppliers.

In highly competitive manufacturing sectors such as electronics, automobiles, aerospace etc with tiered network sourcing structures, optimisation is increasingly seen as a means of moving towards partnership or lean supply with a smaller number of more technically proficient suppliers. For many companies, moving from the traditional manufacturing to a leaner supply base is critical to their survival. Spekman et al (1999, p. 107) argue that: ’Effectively managing the sourcing process requires
working more closely with fewer suppliers. Practically, rationalizing the supply base reduces the absolute number of transactions and the associated costs. Critical success factors here are leverage and synergy: the opportunity to improve market place performance by moving from transactional interactions to mutually beneficial collaborative exchanges. Thus, the outcome of rationalisation is different, closer relationships with some of those suppliers retained.

4.3 Approaches to supply base optimisation

Pareto Analysis
The starting point is the examination of existing suppliers in relation to the value of business conducted. This may be done using Pareto analysis. Thus organisations which have not recently analysed their supply base will probably find that roughly 80% of supplies by value may be supplied by 20% or less of their suppliers. Clearly therefore, the long tail of low value suppliers is the target for rationalisation, subject to the criticality of the product or service purchased.

Purchasing portfolio analysis
Kraljik (1983) presents an approach to analysing strategic purchasing options using portfolio analysis. This takes into account the relative strengths of buyer and supplier, and assesses risks such as the effect of selected strategies on security of supply. The starting point is the categorisation of purchases into four groups, which are set out below with their implications for the supply base:

Non-critical: usually low value, high volume items with a wide choice of suppliers. Thus there are opportunities for standardisation of products, reduction of inventory and concentration of business in a smaller number of suppliers. Purchase of such products may also be itself contracted out to another company or agency, thus transferring the administrative costs from the core organisation.

Bottleneck: these may be low value products but are not easily obtainable. They therefore carry a high risk of supply failure, and stronger links with suppliers of such products, as well as alternative suppliers, should be developed.

Leverage: there are many suppliers but few buyers for these items, and therefore the buyers may profit from competitive bidding procedures with suppliers without the necessity to develop stronger or longer term relationships.

Strategic: these items are scarce, high value, with few suppliers and there is limited competition from new market entrants. For such items longer term relationships with existing suppliers should be developed.

Thus the main focus for rationalisation should be suppliers of non-critical and leverage items, with suppliers of bottleneck and strategic items targeted for possible partnership.

Syson (1992) provides a helpful summary of Purchase portfolio analysis.

Rationalization of the supply base in the automobile industry
Lamming (1993:181-3) identifies the following ways by which motor manufacturers have sought to reduce their supply base:

- removal of any supplier who does not meet required levels of performance in Supplier Quality Assurance and other supplier assessment processes
• moving from several sources to dual or single sourcing
• integration of several separate components into a re-designed, possibly less complex sub-assembly which is assembled by a direct or first tier supplier; suppliers of smaller components switch supply to the sub-assembler
• use of first tier suppliers to co-ordinate supply from minor firms ie outsourcing assembly work to specialist companies, often paying lower labour rates eg cutting and sewing of fabrics and leather. Thus seating systems are supplied whole by one supplier, rather than having 30 suppliers of 50 pieces delivering to the manufacturer's assembly line

The rationale for the adoption of the methods outlined above, and evidence of the enhanced role of suppliers is provided by Case Study 2.

---

**Case Study 2 Volkswagen’s supply base policy**

Volkswagen's goal is to source the entire purchasing volume from `best in world' suppliers, offering the 'highest quality at the lowest price, at the right place and at the right time'. Extensive sourcing programmes are already under way in the UK, France, Spain and Italy involving contact with 390 suppliers...

The challenge facing the motor car industry today is principally pressure of costs. This is due, amongst other things, to higher development costs resulting from more frequent model changes and technically more sophisticated vehicles, new safety features, and higher overheads from increased advertising and marketing expenditure. This has resulted in a requirement for constant adaptation, including changes in purchasing policy in an attempt to make offsetting reductions in costs. This has led in turn to international production locations, improvements in quality, higher requirement profiles for the developers of component parts and a stricter adherence to deadlines.

Other changes include the reduction of material costs and an increase in the proportion of recyclable parts in order to meet future environmental requirements now...

The classic supplier relationship is increasingly being supplanted by more complex forms of co-operation. Part of the development and quality responsibility is transferred to the supplier, who also takes over certain logistical functions. For example, highly automated vehicle assembly requires the supply of complete sub-assemblies. In future, Volkswagen's suppliers will more frequently have 'module' responsibility for an assembly comprising very different types of components eg painted bumpers with fog lamps, a steering wheel with an air bag, or a complete seat with an integrated safety belt.

In this context, Volkswagen see the possibility of module suppliers themselves procuring parts for the module from low-cost sources. Final assembly might then take place in a satellite factory in the vicinity of the vehicle assembly plant.

Volkswagen's criterion for the sourcing decision is the best compromise of price, logistical optimisation, technical and quality levels, and, where appropriate, considerations relevant to the sales market. The supplier industry has a central function in this procurement strategy, filling the role of problem solver, making use of all its potential for innovation, structural adaptation and international mobility.
Contracting out

As indicated in Case Study 2, a significant strategic option for managing the supply base is that of contracting out of support activities, so that the organisation can concentrate on its core activity (see Module A). As well as the benefits of cost reduction and improved performance which normally ensue, the need to purchase supplies to maintain such operations may be removed. The effects of contracting out on the supply base will however vary depending upon how the contractors are to be managed. Should the client organisation decide to manage all service contracts themselves, the client managers let contracts for non-core services directly, and are responsible for managing and monitoring the contracts. This results in a substantially increased workload for purchasing or line managers and an increased number of suppliers for work previously carried out in-house.

Spekman et al (1999, p107) argue that outsourcing 'places a premium on the skills needed to identify and distinguish between strategic and non-strategic activities, to select and develop suppliers, to structure long-term supplier relationships, and to manage suppliers across a range of service and manufacturing activities'.

5. Supplier Involvement in New Product Development

Early supplier involvement (ESI) in the design of new products, processes or systems has been identified as a critical factor in reducing lead time and cost and improving quality. Hines (1994, pp81-92) demonstrates how supplier involvement in bilateral design in Japanese network sourcing has contributed to the competitive advantage which Japanese manufacturing companies achieved over their Western counterparts. Early supplier involvement may be required where the customers' requirements are uncertain, at the forefront of existing technology, and complex. As the supplier to be involved would generally be one of a small number with the required expertise, the sourcing process would essentially involve negotiation with one, possibly existing, supplier, whilst another may be assessed as to their capability to provide a similar expertise should the existing supplier not prove capable or suitable.

Drawing upon Kraljic's portfolio model discussed above, Wynstra et al (2000) develop a Supplier Involvement Portfolio to distinguish four types of involvement in development projects: routine, arm's length, critical and strategic. Using Media Richness Theory (MRT), suitable supplier-manufacturer interfaces for the four types of involvement are defined in terms of the direction of information flow, the communication media used, the amount of communication, the topics discussed and the functions involved. MRT is used because it not only explains communication behaviour, but also prescribes the type of behaviour which is expected to be efficient and effective under particular circumstances. Thus in respect of strategic development, characterised by close co-operation and joint development, there is two-way communication, rich media such as face-to-face group meetings are used, the amount of communication is high, a range of functions are involved, and technical and commercial information is communicated.

6. Supplier selection

Supplier selection is central to the work of all buyers, and is probably the most important function in the purchasing process.
6.1 Methods of selection

Much research has centred on competitive tendering or negotiated approaches, which are generally linked respectively to adversarial and partnership relationships with suppliers. Parker and Hartley (1997) dispute the claims in the literature in favour of the latter over the former, and quote Cox (at p124):

'It is a complete misunderstanding to assume that either a competitive or collaborative approach to procurement is superior. Organizations require a sensitive awareness of the benefits of both a competitive and collaborative strategy and need to operate along both dimensions continuously…'

As formal tendering is based upon the expectation that greater competition is generated from the competitive bidding process, arguments for and against competitive bidding are examined below.

Arguments in favour of competitive bidding include:

- it enables the buyer to obtain the lowest price for his requirements, as the knowledge that he is competing with other firms compels each bidder to quote as low as possible in order to win the business.
- it provides an equitable and objective method of assessing suppliers
- it ensures compliance with accountability to taxpayers and shareholders
- it provides transparency and an audit trail to justify supplier selection
- it protects against fraud and ensures ethical practice.

Arguments against competitive bidding include:

- the lowest price bidder may be forced to cut quality to achieve the bid price
- the winning bidder often removes the competition provided either in-house or by competitors in the market place, and can consequently achieve a monopoly position and increase prices in the subsequent tendering process
- the difficulties, expense and time associated with switching to new suppliers
- expectations of competition may be false, especially in markets with one or a few dominant suppliers
- there are high transaction costs in terms of detailed procedures, records, and documents
- it lengthens the time required to obtain supplies
- tendering regulations may hinder efficient purchasing, as accepting offers entirely on the basis of lowest tendered price may prevent the achievement of broader 'value for money' performance

Many of these arguments for and against competitive tendering are conditional upon the nature of the supplier market and how the process is carried out. You can check whether use of competitive tendering is efficient and effective against the following conditions:

- are there many sellers, or at least the potential for market entry or substitutes in a concentrated market?
- is the value of the specific purchase sufficiently large to justify the high transaction costs?
- is the specification explicit and clear to both buyer and seller, and does it identify criteria for selection?
- will a broad range of financial, technical and managerial criteria be used in the evaluation of tenders?
- are the sellers technically qualified, actively seeking the contract, and therefore willing to price competitively?
• will there be sufficient time allowed for bidders to prepare bids, especially new suppliers?
• is formal tendering to be accompanied by pre- and post-tender negotiation, conducted in accordance with ethical practice (see below)?

Tendering and negotiation are not mutually exclusive, though strict rules may be laid down to govern its scope and conduct, especially in the public sector. Selection of supplier by negotiation alone is often associated with a partnership approach, where existing, long-term suppliers will be given the first opportunity to discuss the supply of a new product, usually at an early stage in its design.

Its advantages are:
• reduced time looking for new suppliers and gathering competitive bids;
• continuity of relationships with suppliers who are aware of your needs and way of doing business
• reduced risks for both suppliers and customer organisation, and should as a result lead to reduced costs
• incentives for suppliers to invest in electronic and manufacturing systems compatible with those of the customer organisation

However, possible disadvantages include:
• increased danger of collusion and fraud
• increased difficulty of evaluating offers on an equal basis
• no guarantee that the outcome of the negotiation will be competitive in relation to the supply market
• selection may be discriminatory under EC Public Procurement Directives for public sector organisations and the utilities, unless use of the restricted procedure is permitted

The choice of methods may be constrained by factors such as the extent of competition in the market, the nature of the requirement (strategic, critical or bottleneck as against leverage or non-critical), the degree of certainty as to the requirement, and regulatory contraints (as with the EC Procurement Directives). However, even an open tendering exercise within the public sector does not necessarily have to be an arms length, paper based process, and could combine strict qualification criteria to result in a smaller number of well qualified potential suppliers whose capabilities could be assessed not only by their written bids but also by visits, presentations and meetings at which the finer points of an agreement to supply could be negotiated.

De Boer et al (2001) reflect the range of options in presenting a comprehensive review of the literature of decision methods supporting supplier selection. They develop a framework that takes the diversity of procurement situations in terms of complexity and importance into account and covers all phases in the process. Whilst few methods for initial problem definition and formulation of criteria are identified, methods for pre-qualification of potential suppliers include categorising suppliers according to previous performance, Data Envelopment Analysis (DEA), Cluster Analysis and Case-based reasoning systems. The majority of decision models apply to the final choice of supplier. These include linear weighting models, where weights are given to selection criteria according to their importance; total cost of ownership models; mathematical programming models; statistical models; and artificial intelligence models. Decision methods and techniques not previously suggested in a purchasing context are also proposed for each stage of the process.
EC Procurement Directives

It is clear that the EC Procurement Directives (see Module B6) dictate the use of competitive tendering. This is particularly evident in the emphasis on formal tendering procedures, on attracting bids from suppliers throughout the EC, and on maintaining an arms length relationship with suppliers. Some flexibility is however provided in the selection criteria by the opportunity to specify the most economically advantageous offer rather than lowest price alone. Whilst there is also provision for the negotiated procedure, its use is heavily circumscribed.

To date, the EC Directives have not resulted in a significant increase in the cross-national award of contracts within the EC (see for instance Hartley and Uttley 1994). It is too early in the operation of the directives to state definitively whether this is as a result of non-compliance, or structural factors in European markets which result in national suppliers retaining an advantage over competitors from other countries. However, the European Commission is stepping up its monitoring of compliance, and there is evidence that contracting authorities are increasingly complying with the procedures, even if the outcomes still seem to favour national suppliers!

6.2 Criteria for selection

In order to ensure that the supplier(s) you select will meet your requirements, it is important that you establish the criteria for selection correctly. These may include a balanced assessment of factors such as price, quantity, quality standards, carriage and delivery time and location, maintenance and after sales service, method of payment, and terms of payment. The EC Procurement Directives stipulate two criteria, either price, or the most economically advantageous offer, embracing criteria such as technical and artistic merit, profitability, after sales service, delivery date, functional characteristics and running costs. The criteria to be applied to the contract award must be stated with weights if appropriate, and only these criteria may be applied in selecting the supplier. Even if the Directives do not apply to your organisation, the practice of providing early and full information about selection criteria to potential suppliers and applying them consistently is one which should apply to all tendering exercises.

In relation to manufacturing, Weken et al (1997) present a supplier selection case study based upon a tool developed for DAF Trucks which sought to assess suppliers' capabilities for becoming a system supplier. The tool measures: the present structure in terms of organisation and market position; the supplier's strategy; the systems to ensure adequate performance; and the supplier's actual performance with respect to quality, delivery/logistics, technology, supply chain management, efficiency and finance. The items considered in the assessment are presented in Table 1.

INSERT Table 1

A model for multi-criteria vendor evaluation and selection has been developed by Morlacchi (1999) based on a 'conceptual hierarchical structure' evaluating the suppliers' processes, capabilities and resources and a measurement framework incorporating metrics for each criterion. A 'fuzzy logic' approach is used 'to link qualitative and subjective 'fuzzy' variables with quantitative variables' (p617). Empirical tests of the model found that: it was satisfactory in giving an accurate evaluation of a supplier, and modelling managerial processes such as decision making and strategic planning as well as work processes; process modelling using resources and capabilities should be customised of for different types of purchases; and that a combination of fuzzy and traditional methods could simplify and improve current approaches to supplier evaluation.
6.3 Selecting suppliers electronically

The use of electronic means for supplier selection is illustrated by the following case study. Covisint is an 'online purchasing exchange' developed collaboratively by 3 major US automotive manufacturers, which can be used to purchase parts and supplies from electronic catalogues; for online auctions to select suppliers of components for vehicle programmes; to auction off goods, obsolete parts or manufacturing lines; and using electronic visualisation software, to facilitate new product development and supply chain management.

Case Study 3: Covisint

After seven months of industry and government speculation, ArvinMeritor on October 3, became the first company to make a transaction using the online purchasing exchange created by Daimler-Chrysler, Ford, and General Motors.

The US supplier of drivetrains and exhaust systems held a two-hour online auction that chose a supplier for an injection-molded plastic part…

This week an unnamed supplier will use Covisint for a collaborative product development project.

…Forty customers are expected to either host an auction or use the collaborative product development and supply chain management tools by the end of the year…

Delphi Automotive Systems plans to host its own Covisint auction in the next two weeks. The supplier will look for a company to supply gray iron castings for a chassis.

Delphi already has qualified and invited a group of suppliers to participate in the auction, which will be monitored by its buyers in Dayton, Ohio, USA. The selected suppliers will run through a practice auction before before the auction date.

The auction will be used as a way to find the lowest bid, said Ann Macrino, a manager in Delphi's supplier relationship group. However, delphi will do a "deeper dive" on the three lowest bidders to make sure there are no quality issues after the online auction is complete…

G. Kachadourian, Covisint is finally real, Automotive News Europe, October 9, 2000, p. 4

The anticipated benefits of Covisint include a reduction in paperwork, inventory reduction, better information regarding quality control, and a quicker response to customers' demand. Note however that in the case study a further stage in the selection process is anticipated with a quality check on the 3 lowest price bidders.

7. Conclusions

This topic is very broad ranging, embracing a wide range of important areas of knowledge and competencies central to the buying function. Each of the issues discussed could be explored at greater length, especially in respect of differences between sectors, products and services. The main conclusions are:

- The importance of developing skills of supply market analysis, and of regularly analysing developments in the key markets in which you currently buy as well as possible alternatives
- Methods of Vendor appraisal used need to be carefully thought through, given the evidence of differences of perception between customers and suppliers as to its purpose
- Methods and extent of Supply base rationalisation depend on the structure of the existing supply base and sector in which you operate, and optimisation implies
bringing in new suppliers, resulting overall in a smaller supply base of better quality suppliers

- Involvement of strategic suppliers in new product developments at an early stage is critical to achieving improvements in design, production and overall cost, and consequently competitive advantage
- The appropriateness of methods of Supplier selection depend on the nature of the requirement, sector and regulatory regime, but a variety of methods including tendering and negotiation could be combined innovatively to ensure that the objective of competitive supply is achieved even within the most closely regulated sectors
- In all of the above areas, electronic systems can offer quicker and more efficient solutions

Directions for further reading

References


Hines P (1994) Creating World Class Suppliers, Financial Times/Pitman


Further reading


Self-assessment questions

1. What is your own organisation's sourcing policy? What products and services are sourced locally, nationally, or globally? What are the reasons for using these supply markets? You should identify the advantages and disadvantages of each option, as well as the costs involved in researching the market (eg time, travel etc.).

2. Write a brief paper to the Purchasing Manager outlining the strengths and weaknesses of the vendor appraisal process in your own organisation in the light of the criticisms by Lamming et al. How does it compare with the Nissan Supplier Appraisal process? Present proposals on how your VA process may be improved.

3. Does your organisation have plans which incorporate supply base optimisation? What is the nature of your supply base in terms of the structures examined above, and the quality of information sources? How easily can you identify the suppliers with whom your section, department and organisation deal?

4. Can you apply the steps towards rationalisation outlined above to your own supply base? How would you categorise your suppliers using purchasing portfolio analysis? Are the methods of rationalisation outlined by Lamming appropriate to your organisation and its supply base? Are your suppliers delivering the innovation required by Volkswagen? Have you contracted out any areas of work? From your experience, what are the costs and benefits of rationalisation?

5. How does your organisation select its suppliers? Is the process governed by legislation, organisational rules and procedures? How efficient and effective is it? Does it result in competitive supply?