Purchasing Performance

1. Introduction

This topic will present a framework for evaluation of various approaches to assessing purchasing performance. The topic covers:

- Importance of nature of purchasing performance assessment
- a process based Evaluation model incorporating inputs, throughputs, outputs and outcomes
- use of qualitative measures and quantitative indicators
- identification and assessment of added value from purchasing
- the Purchasing Excellence Model; and
- methods of assessing the performance of the supply chain or network

2. Importance of the nature of purchasing performance assessment

What is performance?
In many organisations, there are explicit statements of the organisation's strategic mission, goals and objectives. These may be contained in a strategic plan, and are often displayed prominently for both staff and customers to see. Often these are very generalised: for example, many organisations adopted the concept of Excellence and characteristics of corporate culture identified by Peters and Waterman (1982):

- the ability to manage ambiguity and paradox
- a bias for action
- closeness to the customer
- encouraging autonomy and entrepreneurship
- productivity through people
- a hands-on commitment to products and services
- a simple form and lean staffing
- knowing your business

In similar vein, many organisations seek to achieve 'world class' performance by comparing themselves with other organisations regarded as the best at what they do. Schonberger (1986) identified the following principles as combining to create world class manufacturing:

- total quality management
- just in time delivery
- total preventative maintenance
- employee involvement

In the public sector, value for money is often identified as the overriding goal. Although its precise definition varies, it is generally regarded as delivering public services of the requisite standard at the lowest cost to the taxpayer. This of course operates within a framework of political goals and legal constraints, which may supercede the operational goal of value for money in certain circumstances.

Clearly not all organisations can achieve world class performance, or afford to invest the resources required to carry out extensive comparison of their own performance
against world class performers. However, the aspiration to improve performance is crucial to ensuring that performance is effective, and can be a positive motivational factor for individuals and the purchasing department in general.

**Why is performance important for purchasing?**
Traditionally purchasing has been regarded as a low status occupation. Whilst levels of professionalism have improved considerably in recent years, and purchasing's contribution to overall organisational performance through the proactive approach outlined in previous topics is increasingly being recognised, something of an image problem remains. It is vitally important therefore to be able to project and sustain purchasing's image through marketing the purchasing function to internal and external customers. This is particularly critical because in many organisations Purchasing operates as a Business Unit or profit centre which is required to meet the cost of the service provided through the value added by savings, improvements in quality, better service from suppliers etc. Levels of performance are increasingly specified in service level agreements between Purchasing and its customers stating the extent of service provided and standards to which Purchasing is committed. There is also an increasing degree of competition with other Purchasing organisations. For instance, IBM have established a Procurement Services company which offers its expertise to other organisations; government agencies are not `tied' to their parent department's purchasing, and are free to either buy their own requirements, or use an outside agency. Therefore performance is about survival at the crudest level: if you, or your department, or the organisation as a whole, does not perform, then others will be asked to do so.

**What is purchasing performance?**
Van Weele (1994) recognises that measuring the performance of the purchasing department is difficult, and concludes that this is primarily because purchasing performance suffers from a lack of definition, a lack of formal objectives and standards, problems of accurate measurement, and large differences in the scope of purchasing’s responsibilities, between one organization and the next.

In a simplistic attempt to manage this complexity, purchasing goals are often stated as the five rights:
- right material
- right quality
- right place
- right time
- right cost

Whilst they provide a concise, easily memorised statement of purchasing's responsibilities, they require both an overall organisational context, and more detailed definition, to be usable in practice. They do however reinforce the important point that purchasing is not purely about lowest cost, but needs to consider the other factors which all contribute to providing a quality service to the customer. Organisational goals may provide guidance on which of the factors should predominate: for instance, lowest cost is often regarded as being dominant in the public sector, particularly in competitive tendering for services. In other sectors, such as aerospace and automobile manufacturing, the costs of poor quality in terms of market share and safety are so high that the lowest cost at the specified quality level is the key factor.

It is also important to note that these factors are not independent: improved quality implies higher cost; delivery location and timing may also affect the cost. And if the wrong material is purchased or delivered, there will be cost and time consequences in
replacing it. Thus there is a need to use such factors in an integrated manner, recognising the way in which emphasising one or the other may affect the overall purchase.

As far as the public sector is concerned, a report prepared for the Central Unit on Procurement (Treasury 1993) identified the following as characteristic of high performing purchasing organisations:

- clear procurement strategy
- effective management information and control systems
- development of expertise
- a role in corporate management
- an entrepreneurial and proactive approach
- co-ordination
- focused efforts

This was based upon a survey of a number of private sector organisations regarded as achieving a very high level of performance in purchasing, and demonstrates the value of identifying best practice from other, more competitive sectors.

A survey of Chief Executive Officers or Presidents of 135 companies in the manufacturing, service and small company sectors was carried out by the Centre of Advanced Purchasing Studies in the USA (Bales and Fearon 1993). They identified the following aspects of purchasing's contribution to the firm as very important:

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<thead>
<tr>
<th>Aspect</th>
<th>%</th>
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<tr>
<td>maintain ethical standards</td>
<td>94</td>
</tr>
<tr>
<td>assure supply of items</td>
<td>93</td>
</tr>
<tr>
<td>assure internal customers' satisfaction</td>
<td>87</td>
</tr>
<tr>
<td>contain/reduce prices</td>
<td>87</td>
</tr>
<tr>
<td>demonstrate professionalism</td>
<td>86</td>
</tr>
<tr>
<td>improve/maintain incoming material quality</td>
<td>75</td>
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<tr>
<td>develop supplier partners</td>
<td>70</td>
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3. **Model for Evaluation of purchasing performance**

Goals and objectives need to be broken down into the standards and targets against which to assess the overall performance of the organisation, as well as purchasing's contribution, and that of individual staff. This is essential to ensure that staff and managers at all levels are aware of the levels of performance which they are expected to achieve.

It is however crucial to ensure that the right thing is being measured in the right way. This involves identifying criteria against which performance can be assessed and monitored. The following are most commonly applied:

- economy, which relates purely to inputs;
- efficiency, which is the ratio of inputs or processes to outputs, and therefore measures of profitability and productivity are efficiency measures
- effectiveness, which is the achievement of overall goals, and could therefore subsume other criteria such as excellence, quality, ethicality and innovation.

Against each criterion, specific targets, in the form of quantitative measures or qualitative indicators, may be identified.
Thus goals and objectives need to be linked to targets at the strategy formulation stage, and mechanisms for monitoring performance against those targets established. Figure 10.1 presents a framework which may be used to relate goals to operational targets, and to ensure that overall performance is being measured, rather than activity for its own sake.

Targets may relate to inputs (staff, expenditure, equipment etc), processes (the activities which convert inputs e.g. orders processed), outputs (the immediate products of the processes eg goods or services delivered) and impacts or outcomes (the effects of the outputs on overall organisational performance e.g. poor quality parts resulting in lost production or increased maintenance costs). Understanding the links between what is being measured at each of these stages is critical, as maximising input or process targets may be at the expense of the output or outcome. It is important therefore to ensure that achievement of short term targets, such as cutting the cost of the purchasing department by reducing staff numbers (inputs), is not at the expense of long term targets, such as improving the overall quality of suppliers which will require an extensive programme of supply base analysis.

The above discussion may be related to the level at which the purchasing function is performed. Syson (1992) distinguishes between clerical, commercial/transactional and strategic. A clerical focus will be purely process oriented, emphasising measurement of orders placed, backlog of orders to be processed, lead-time taken and whether authorisation procedures are followed. No consideration will be given to whether the orders processed are actually necessary in relation to overall organisational objectives (outcomes). A commercial focus is still concerned with process but in relation to the outputs produced or the outcomes sought. Thus targets for savings, delivery, customer service and quality assess either the efficiency with which desired outputs are produced, or the effectiveness of outputs, for example the impact of improved quality on customer perceptions of the service provided. A strategic focus requires an overview of performance incorporating an operational audit of strategy, organisation, systems, benchmarking and customer/supplier analysis.

Baily et al (1997) also recognise the need to measure both tactical and strategic functions. Starting from the operational activities of the purchasing function, the authors stress that the effectiveness of a department or an individual is more important than how efficient they are. They conclude:

- the effectiveness of purchasing professionals in meeting the criteria involved will be a "function of the effectiveness of the approaches used to measure their performance".
- due to the diverse nature of activity of a modern purchasing professional, there will not be one single, generally applicable, approach that may be used to measure purchasing performance.
- qualitative as well as quantitative measures should be used to evaluate and appraise the purchasing function.

4. Measures and indicators of purchasing performance

A distinction was made above between performance measures and indicators. Measures are generally expressed in figures, and tend to assess performance in areas which are easily measurable e.g. cost and number of inputs; numbers of orders processed, time taken from requisition to order delivery; financial ratios, savings performance; numbers of incorrect deliveries, either of time, location or quantity. Whilst such measures are relatively easy to obtain and monitor, in the light of the
above discussion, it should be noted that these tend to measure economy and efficiency rather than effectiveness, and therefore emphasise a clerical and commercial, rather than a strategic focus. Measures therefore should be combined with indicators which are generally expressed in qualitative terms, and are often subjective i.e. opinions of customers or suppliers on the level of service provided by purchasing staff. For example, Chao, Scheuing and Ruch (1993) examine ten key purchasing performance measures as selected by stakeholders in the purchasing decision-making process: purchasing managers, buyers, and internal customers. These are weighted to reflect their relative importance in the subjective judgement of the stakeholders, and used to assess purchasing performance. This method provides an adaptable approach which produces different performance criteria for each organisation and should result in a high level of commitment on the part of stakeholders. However, it is not appropriate where comparisons are sought between different organisations.

Quantitative measures are more appropriate where the nature of the task is clear, and sets of objective measures which are commonly used in the organisation or the sector can be applied with little or no amendment. An example here is measurement of price performance through the concept of savings i.e. the financial benefits resulting from a reduced price on an existing order (actual reduction in spend) or on a prospective supply item (avoided spend). The reduction in either case is assumed to be the result of action on the part of the buyer, but may just arise from independent factors such as changes on the commodity or foreign exchange markets. Price monitoring systems such as those produced in the UK by companies including Purchasing Index Ltd., John Hall, and Cambridge Information Centre, are popular in purchasing organisations where relatively simple items are being bought over large geographical areas. Basically an extension of the commodity principle, the index reveals to a company when it is ‘paying too much for an item’ (or for a ‘basket’ of items). This method has been used extensively by the Audit Commission and the National Audit Office. Organisations performing poorly against key indicators may be asked to explain the causes, which may perhaps be due to special demographic circumstances.

4.1 Benchmarking
A range of quantitative measures may be combined and used to assess the performance of an organisation or sector. This is often referred to as benchmarking. Benchmarking techniques are used to measure such variables as the cost of raising an order, the number of orders per buyer per day, the cost of running the purchasing department as a proportion of sales, etc. A good example is the purchasing benchmarks produced by the Centre for Advanced Purchasing Studies, which are available by sector. Measures need to be clear and easy to understand. Such measures facilitate comparisons between different purchasing departments in large organisations, between similar kinds of organisations, and with competitor companies. The value of such comparisons may also be seen in the public sector where there are many similar types of organisations that are not in competition with each other e.g. local authorities, NHS authorities, whose performance can be assessed and ranked according to specified criteria. However, in terms of Figure 1, benchmarking often lacks any concept of how the desired effects link back to causes at various stages of the input, throughput, output, outcome process, and therefore measures often appear to bear little relation either to business success or strategic purchasing. If we cannot understand the impact of individual measures on other individual or clusters of measures, and ultimately desired outcomes, how can we understand what changes need to be made to improve performance? Nevertheless, benchmarking itself is intuitively attractive and doubtless has valuable applications: it may be that it is currently a modern tool being applied to outdated measurements.
The following are more positive examples of the use of benchmarking from different perspectives in terms of both the authors’ background and sector (Erridge et al 2001). In chapter 21, Florence Gregg, purchasing manager at Queen’s University, Belfast, presents a practical, easy to use, benchmarking model based on the single key measure of ‘expenditure influenced by purchasing professionals’. The model can help the practitioner to plot the increase in purchasing influence over non-pay expenditure and the extent of purchasing proactivity in terms of the use of local consortia and national buying arrangements, rather than merely reacting to user demands. Developed in conjunction with colleagues from other UK universities, the model will help inform future strategy, identify institutions where better, or more appropriate, practices appear to exist and, in the longer term, help the sector to improve its overall purchasing performance. The applicability of the model to other public and private sector organisations is also demonstrated.

By contrast, in Chapter 22, Danuta Kisperska-Moron presents a broader empirical survey of benchmarking practices in Poland, the UK and Italy aimed at closer monitoring of superior supply chain performance. Benchmarking procedures are one way to support such long-term oriented actions focused on the identification of best practices to be followed. She argues that companies must be able to assess and compare all processes connected to procurement, including the personnel, which is a critically important factor for overall procurement success. Thus the chapter addresses the extent to which the emerging Polish economy can adopt methods developed in Western economies. Such transfers of knowledge and experience are vital to progress in terms of both academic study and the development of soundly based tools and techniques for practical application.

4.2 Audit
Purchasing audit is another approach that combines a wide range of measures and indicators focussed on key areas contributing to the overall purchasing performance. Hannu Vanharanta, in Erridge et al (2001 chapter 23), argues that in many business enterprises, purchasing and supply is becoming a strategic activity, and finding ways to improve overall purchasing and supply performance is becoming essential. He recognizes that improving future performance must be preceded by the measurement and evaluation of present performance. With this in mind, he examines currently available textbook methods for auditing purchasing and supply management performance, but finds them to be highly theoretical in their approach. As they have not been verified or validated in practice, he uses case studies to test some of the textbook methods on a practical level in two Finnish manufacturing companies. Audit techniques and criteria are developed in conjunction with managers in the companies studied, and the method is shown to be helpful for identifying areas of good practice, as well as those areas where improvements are necessary.

5. Contribution to Added Value from Purchasing
The notion that purchasing can increase added value within an organisation is sometimes quoted in the context of performance appraisal. However, definition of added value in terms of anything other than cost is difficult. Dumond (1994) suggests value added as a basis for performance measurement although her US-based empirical research shows most firms concentrating on measuring cost savings and purchasing efficiency. Her conclusion is that it is necessary to "develop a [purchasing] performance system that emphasises quality, process improvement, and customer satisfaction".
Butler (1996) also focuses on added value, distinguish between 'traditional' and 'modern' activities. Traditional activities include contract negotiation, contract management, better value for money, provision of commercial acumen, improved productivity and reduction of internal cost of operation. Modern activities include supplier relationship management, external resource management, customer satisfaction, product/product range development, process engineering, supply chain management and customer and supplier education. Traditional activities relate to economy and efficiency, and are assessed by measures such as savings, speed of requisition processing and numbers of contract placed. Modern activities relate to effectiveness and are assessed by supplier and customer surveys, process benchmarking, number of strategic partners, supplier relationship performance (see Topic C4) and ultimately business success (growth, turnover, profitability).

Butler's approach is summarised in an adapted version of the Balanced Business Scorecard which incorporates the supplier perspective which was not included in the original Kaplan and Morton model (see Figure 2).

**Case Study 1 Measurement of purchasing performance in UK central government**

This was a crucial area in the 1995 Setting New Standards White Paper proposals. If public procurement is to be seen as making a strategic contribution to government goals of improved value for money and competitiveness, credible means of demonstrating performance need to be established. Traditional measures based upon prices paid and savings through cost reductions and avoidance are compared unfavourably with the approaches recommended based upon whole life costs and benchmarking (paras. 6.6-6.10). Savings data had been reported in annual CUP reports from 1986 onwards, but related only to declared annual departmental spend on contracts let each year. As there was at that time no credible estimates of overall controllable procurement spend, it was unknown against what proportion of that spend savings figures were being reported. Ringwald (1995) provided a more fundamental critique:

"There seems little room here for notions of market conditions, the time elapsed, changes in purchased quantities, economic conditions, specification improvement or service advantages. It would appear that there is no means of recognising the intervention of buyers’ skill and judgement in relating to product, source or marketplace."

However unreliable, savings data served the immediate purpose of providing evidence on the economy and efficiency contributions of procurement to feed the demand for performance measures of any kind.

The 1998 Paper Efficiency in Civil Government Procurement stated that the best procurement units:

“are able to measure and demonstrate their performance in areas such as the efficiency of their own internal organisation, customer satisfaction and benchmarking...”
and goes on to restate the importance of performance measurement:

“Procurement units which measure their activities effectively combine consistent delivery of real savings with a low cost efficient operation. They also achieve greater influence and probity in all areas of departmental spend...they achieve both a high level of customer satisfaction whilst delivering continuous and sustainable improvement.” (p 33)

Thus the aspiration to combine efficiency with effective customer service is made explicit. A more holistic and universal approach is proposed based on a variant of the Business Excellence Model and the Balanced Business Scorecard, known as the Procurement Excellence Model (see Figure 3). This will be applied by all departments, facilitating benchmarking both across government and with the private sector. New measures to be developed include those on large project processes, supplier feedback, price index, procurement’s impact on policy delivery and programme spend and senior management’s expectations of procurement.

The EFQM Excellence Model ®

6. Performance measurement of the supply chain/network

In this section, two examples of comprehensive methods of analysing the whole operation of the procurement function from initial identification of demand to order fulfilment are presented, consistent with Van Weele (1994) who recognises the importance of assessing the performance of ‘purchasing as part of integrated logistics management’.

Erridge et al (2001, chapter 20) presents a comparison of the public and private sectors, illustrated by a case study of the Driver and Vehicle Licensing Agency
(DVLA) Procurement Services. The authors provide an interesting example of cross-fertilization of academic and practitioner interests, with Ann Esain and Peter Hines of the Lean Enterprise Research Centre (LERC), University of Wales in Cardiff, together with Dave Griffiths, Head of Procurement Services in DVLA. The chapter focuses on the issue of performance evaluation and improvement activities (waste elimination). Building on the value stream analysis approach, a series of tools and techniques are identified which help organizations visualize the ‘order fulfillment’ process in a cross-functional manner. The outcome of this research proves the use of these techniques for the public sector and creates a generic framework for application elsewhere.

In chapter 24, Donna Samuel and Peter Hines present a further contribution from LERC. Through a ‘process consultation’ research methodology, a case is described within the food distribution industry where an approach is currently being developed to link supply chain performance and performance measurement with the chosen strategic direction of the firm. This approach is derived from hoshin kanri, a Japanese method known as policy deployment, which can be translated as the method by which world-class Japanese firms cascade the company’s vision to the various layers of the organisation. The case applies Japanese policy deployment matrix logic to develop a balanced scorecard of strategic measures. Using process management as a model, these are then exploded down to provide measures for the primary levels of the organisation. The result is a company-wide performance measurement system which offers a number of advantages over traditional methods.

Overall, therefore, these chapters provide a range of models and techniques to stimulate the interest of both academics and practitioners, and to meet the needs of both public and private sector organisations for performance evaluation of the procurement function.

7. Conclusions

The issues that are emerging in performance measurement are:

- the need to be cautious in using solely quantitative measures either singly or in combination with others, as in benchmarking or audit, and to understand what is being measured i.e. generally clerical or transactional measures of economy and efficiency
- the importance of strategic assessment of the purchasing function's overall contribution to the organisation's goals using both quantitative measures and qualitative indicators of effectiveness and business success
- in order to ensure a logical progression from cause to effect, and from inputs to outcomes, it may be necessary to develop a conceptual model for each specific activity, and the linkages between activities, prior to designing tools;
- different approaches are available depending on the unit of analysis, whether the purchasing department, the organisation as a whole or the supply chain/network.

It is important therefore to be critical about what you are measuring, how and why, in order to obtain valid and usable management and operational information from purchasing performance evaluation.
8. Directions for further reading

Books


Articles


Self-assessment questions

1. In relation to section (2) Importance of the nature of purchasing performance assessment

Does your organisation have an explicit statement of goals and objectives? Are these translated into purchasing objectives? If so, do you and your colleagues know what they are? Can you relate them to your own work? If there are no stated goals and objectives, what do you think they should be?

2. In relation to section (3) Model for evaluation

Using the framework presented in Figure 1, identify the inputs, processes, outputs and outcomes of your purchasing department. Are the inputs adequate to achieve organisational goals? Could they be achieved with less inputs? Are the processes directed at organisational goals? Could you produce better outcomes with fewer processes i.e. reduce the numbers of orders processed by rationalising the supply base?

3. In relation to section (4) Measuring and Indicators

Examine the use of benchmarking and audit of purchasing in your organisation or sector. How valuable are these methods in terms of:

a) comparison of individual measures or indicators of performance;
b) comparison of overall purchasing performance?

4. In relation to section (5) Contributing to added value from purchasing

Analyse the purchasing function in your own organisation against the model in Figure 2. What measures and indicators do you have that enable you to answer the questions relating to each category? What data are missing? How useful is the model for your organisation?

4. In relation to section (5) Contributing to added value from purchasing

(a) Assess the usefulness of the EFQM model as a basis for assessing the performance of an organisation's purchasing function;
(b) What main questions (3 maximum) might be asked under each of the 9 EFQM categories to focus the model more directly on purchasing?
(c) Demonstrate how the model as adapted by your answers to (b) might be applied to your own organisation(s)' purchasing function?